

# **ACS COLLEGE OF ENGINEERING**



## **Department of Civil Engineering**

### **Report of Technical Seminar on**

### **“Bitumen Modification for Sustainable Road Construction”**

**On 5th May 2021 @11AM**

**Co-ordinators**

**Prof. Gayathri G**

**Prof.Mamatha P G**



# ACS COLLEGE OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING

**LIVE WEBINAR**

**BITUMEN MODIFICATION  
FOR SUSTAINABLE ROAD  
CONSTRUCTION**

**5 MAY 2021@11AM**

JOIN MICROSOFT  
TEAMS ID:

<https://rb.gy/d5l9lxr>



**Dr. S. POTHAN PERINA**

Asst. Professor

PES COLLEGE OF ENGINEERING, Namdya

**CO-ORDINATORS**

**GAYATHRI JA PARAGI**  
ASST. PROFESSOR  
CONTACT: 996004484

**MAMATHA P G**  
ASST. PROFESSOR  
CONTACT: 9073070700

**REGISTRATION  
LINK:**

<https://rb.gy/bqofly>

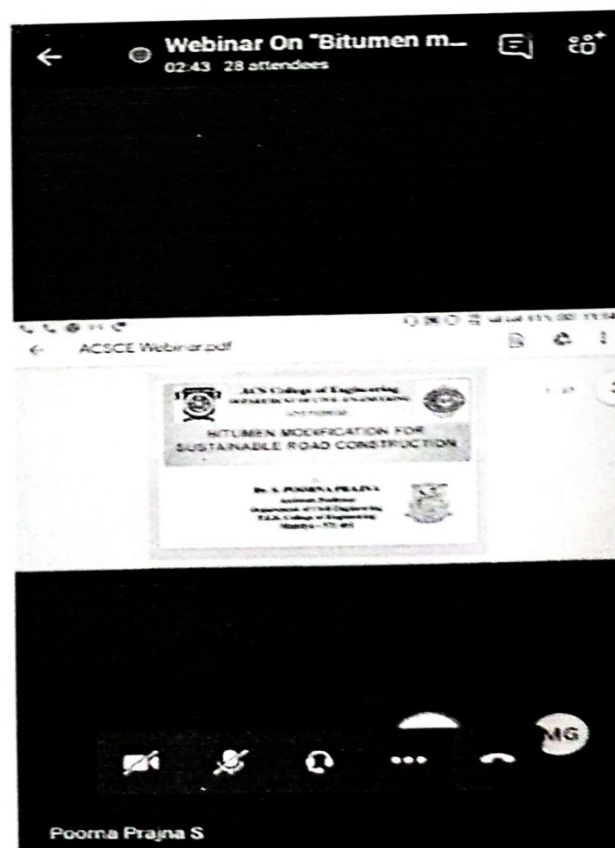
Phone: 9905500023, 9900546678

E-mail: [admission@acsce.edu.in](mailto:admission@acsce.edu.in) Website: [www.acsce.edu.in](http://www.acsce.edu.in)

## Activity in Brief.....!

Department of Civil Engineering successfully completed the Technical webinar on "Bitumen modification for sustainable road construction" on 5th May 2021. The Seminar started @ 11M by welcome speech & introducing the speaker to all the participants by Gayathri G, Coordinator. Then the session was taken over by Dr. Poornaprajna the Guest Speaker. The speaker started the session by giving introduction to bitumen modification for modern pavement design. He has also stressed about need for bitumen modification. He gave information on various tests conducted on aggregates. A brief description about preparation of dry mix & marshall stability test was made known to us. It was overall a very informative presentation. It gave deep insight & added values to the highway engineering. The rheological property of bitumen modified using additives using fly ash which was performed was also informed. Vote of thanks was given by Mamatha P G, assistant professor.

## GALLERY:





Webinar On "Bitumen m...  
26:19 26 attendees

Marshall Test Properties of Bituminous Concrete Mix using Plain Bitumen

Sl. No.	Sample	Marshall Stability (kN)	Flow (mm)	Stiffness Modulus (GPa)	Modulus of Elasticity (GPa)	Modulus of Resilience (GPa)	Modulus of Rupture (GPa)	Modulus of Elasticity (GPa)	Modulus of Resilience (GPa)	Modulus of Rupture (GPa)
1	1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
2	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
3	3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
4	4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
5	5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
6	6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
7	7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
8	8	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
9	9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
10	10	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

PS MG

Poorna Prajna S

Tap to return to meeting 06:24

In the meeting (28)

- AV Anju Anne Varghese (Guest)
- A Aparna (Guest)
- B Bhuvanashree
- C Charitha
- G Gayathri
- H Hernanth
- J Jayaprakash
- LN Lokeshwara N (Guest)
- MH Mohd Hussain (Guest)
- MV Mr. Vishal.B.V  
Organiser
- MS Mrs. Navya K S
- MG Ms. Mamatha P G  
Started recording

Webinar On "Bitumen modifi...  
08:58 24 attendees

PS C

Poorna Prajna S Charitha

AV Y

Anju Anne Varghese Yashaswini

J SR

Jayaprakash Surya R

Mr. Vishal.B.V



## Registration Form:



The registration form features a header image of a road stretching into the distance. Below the title, it specifies the webinar topic and lists required fields. The form includes input boxes for Name, E-mail ID, and Designation, each with a 'Your answer' placeholder. A small icon is visible in the bottom left corner of the form area.

### Event registration

Bitumen modification for sustainable road construction

\* Required

**NAME \***

Your answer

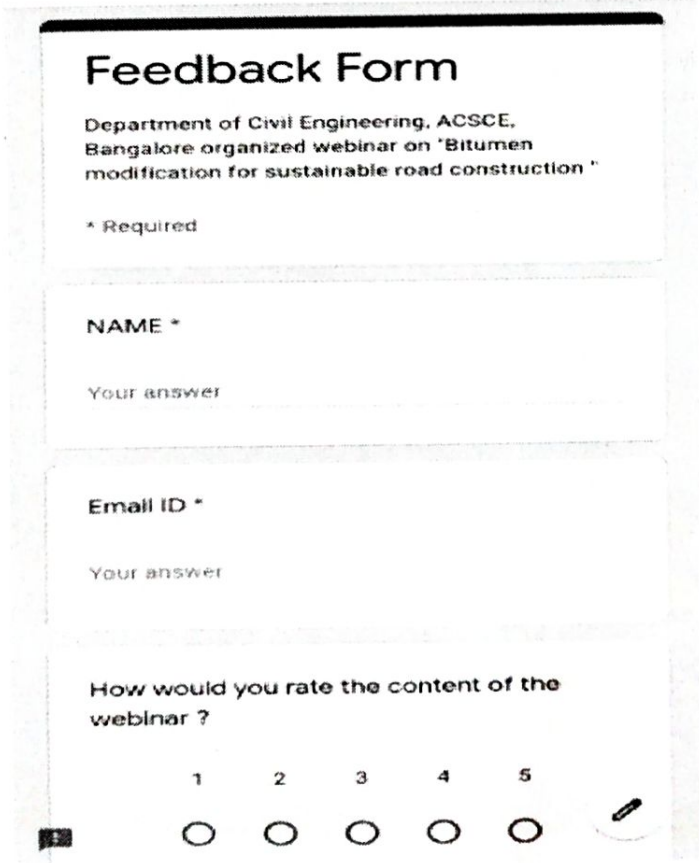
**E-mail ID \***

Your answer

**Designation \***

Your answer

## Feedback Form:



The feedback form includes the department and webinar details, followed by required fields for Name and Email ID. It also contains a rating scale from 1 to 5 for the webinar content, with radio button options and a small icon in the bottom left corner.

### Feedback Form

Department of Civil Engineering, ACSCE,  
Bangalore organized webinar on 'Bitumen  
modification for sustainable road construction'

\* Required

**NAME \***

Your answer

**Email ID \***

Your answer

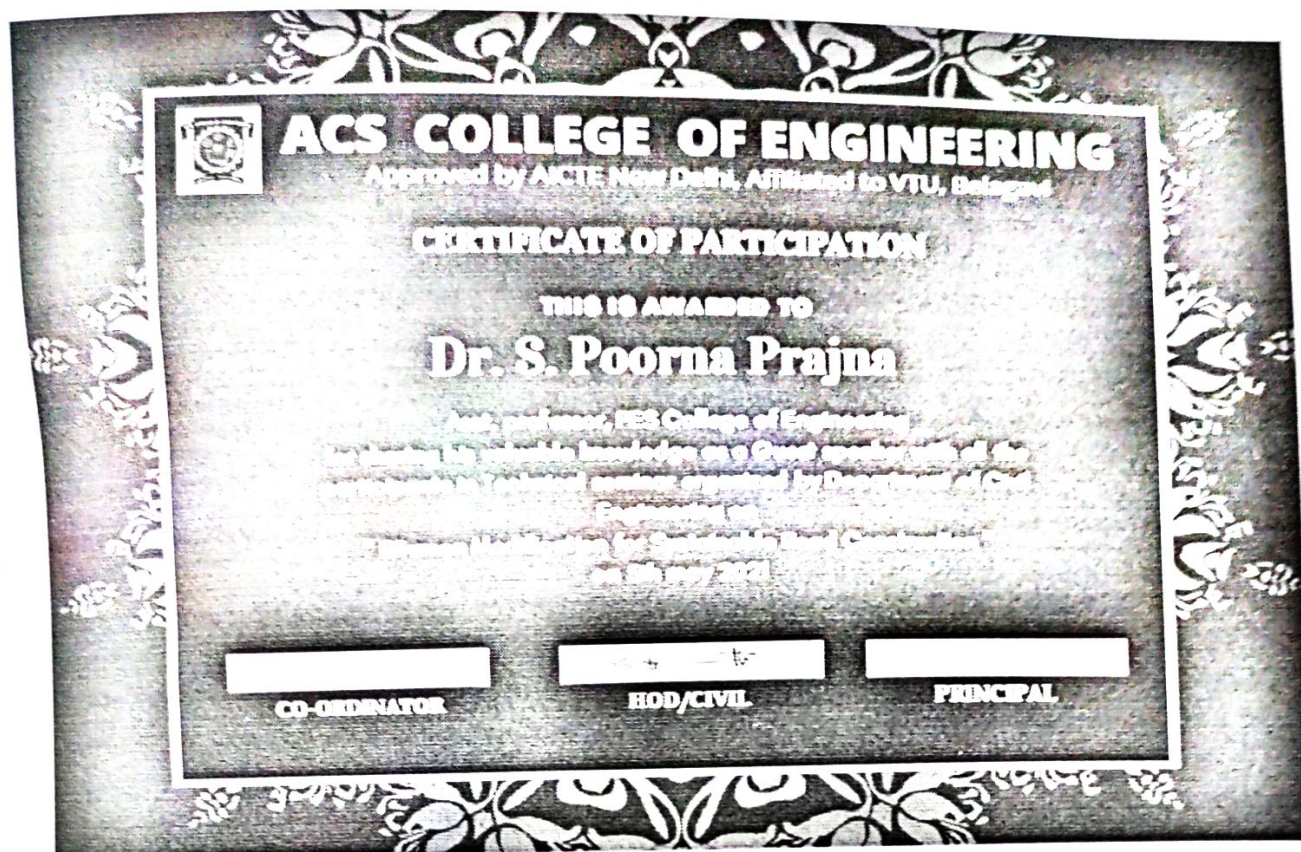
How would you rate the content of the  
webinar ?

1 2 3 4 5

☐ ☐ ☐ ☐ ☐



## Certificates awarded:





**Report  
of  
Technical Seminar  
on**

**“CAREER OPPORTUNITIES IN CIVIL  
ENGINEERING”**

**Organized by**

**DEPARTMENT OF CIVIL ENGINEERING**

**18<sup>th</sup> Dec 2020 @ 11.00 AM**

**Co-ordinators**

**Prof. Gayathri G**





# ACS COLLEGE OF ENGINEERING



INSTITUTION'S  
INNOVATION  
COUNCIL

DEPARTMENT OF  
CIVIL engineering

Presents webinar on

## CAREER OPPORTUNITIES IN CIVIL ENGINEERING

Registration here:  
<https://forms.gle/KyGtAPuywFF5tEYD7>

Date:  
**18<sup>th</sup> December  
2020 (Friday)**  
Time : 11am to 12pm

Resourceperson



**Mr. Indrajeet M. Jain**

Professor & HOD  
Department of Civil Engineering  
Sinhgad Institute of Technology &  
Science, Pune.

Event coordinator

**Prof. Gayathri G**

Phone: 9880114184

Organizer

**Dr. S. Kavitha**

HOD - Dept of Civil Eng

Head of the Institution

**Dr. M. S. Murali**


Principal



## Activity in Brief.....!

Department of Civil Engineering successfully completed the Technical webinar on "CAREER OPPORTUNITIES IN CIVIL ENGINEERING" was delivered by Mr Jainindrajit, **Professor & HOD, Department of Civil Engineering, Singhad university, Pune** in Microsoft teams for the benefit of civil engineering faculty members and students as a enrichment and Value added course.

All Civil Engineering faculty members and students attended the program. The Program was started and greeted by Asst. Prof. Gayathri G. Introduction of Chief Guest was done by HOD Dr.S Kavitha. The program started at 11:00 AM with Power Point Presentation by Mr. Jainindrajit & he explained about the various streams of civil engineering & many ample opportunities in civil engineering. He also beautifully explained about the design of buildings using etabs. The webinar was concluded with vote of thanks by Gayathri.G, Assistant professor.

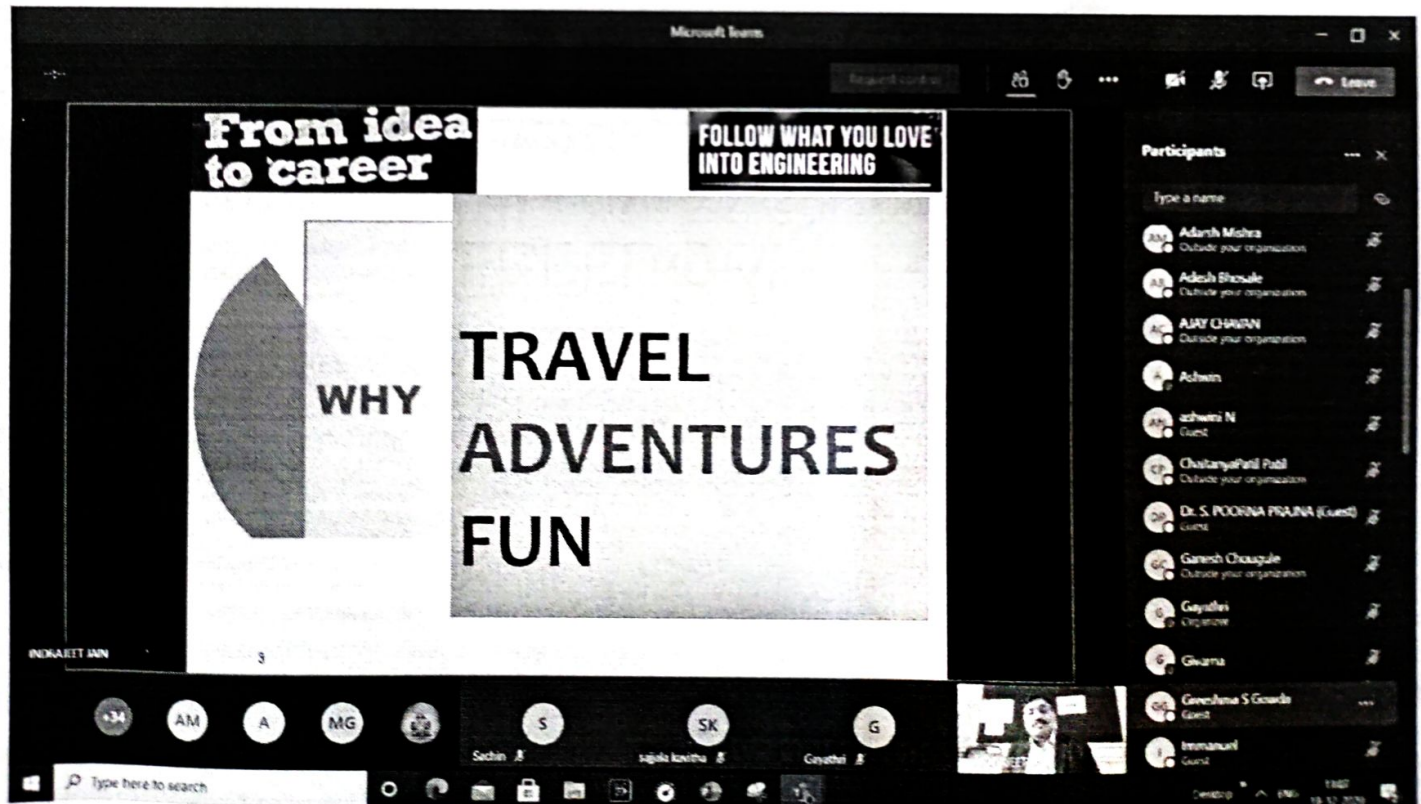
  
**Coordinator**

Prof Gayathri.G

  
**HOD/Civil**

Dr.S Kavitha







# Feedback for Career opportunities in civil engineering

Department of civil Engineering , ACS college of engineering

Email address \*

Valid email address

This form is collecting email addresses. [Change settings](#)

Name

Short answer text

Feedback for Career opportunities in civil engineering



Send

Questions Responses 17

17 responses

Accepting responses

Summary

Question

Individual

Who has responded?

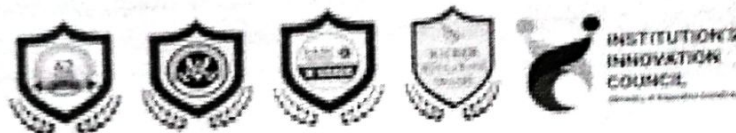
Email

shindemayur161791@gmail.com

pratikshabpawar1999@gmail.com

poojakanchan109@gmail.com

# **ACS COLLEGE OF ENGINEERING**



## **DEPARTMENT OF CIVIL ENGINEERING**

Conducted a Webinar on

**“Career Opportunities in Civil Engineering ”**  
for Students and Faculty

**Thanks To our speaker**



**Mr. Indrajeet M. Jain**

**Professor & HOD**

**Department of Civil Engineering**

**Sinhgad Institute of Technology & Science, Pune**





## ACS College of Engineering

Approved by AICTE New Delhi, Affiliated to VTU, Belagavi.  
(A unit of Rajarajeshwari Group of institutions)



### Certificate of Appreciation

This certificate is awarded to

**Mr. Indrajeet M. Jain**

Professor & HOD, Department of Civil Engineering,  
Sinhgad Institute of Technology & Science, Pune

For sharing her valuable knowledge as a Guest Speaker with all the participants in  
Webinar organized by Department of Civil Engineering on

**"Career Opportunities in Civil Engineering"**

On 18<sup>th</sup> December 2020

Co-ordinator

HOD/Civil

Principal



## ACS College of Engineering

Approved by AICTE New Delhi, Affiliated to VTU, Belagavi.  
(A unit of Rajarajeshwari Group of institutions)



### Certificate of Participation

This certificate is awarded to

**Sarathchandra K**

for the successful participation in

Webinar organized by Department of Civil Engineering on

**"Career Opportunities in Civil Engineering"**

On 18<sup>th</sup> December 2020 @ 10.30AM

Co-ordinator

HOD/Civil

Principal



80 responses

Who has responded?

Email

sr125379@gmail.com

sharanum131@gmail.com

Microsoft Teams

Request controls

Participants

Type a name

In this meeting (42)

Mute all

Mr. Vishal B.V.

72005371E

Outside your organization

720054288

Outside your organization

Adarsh Mishra

Outside your organization

Adesh Bhosale

Outside your organization

ADITY CHAWAN

Outside your organization

Ashwin

ashwini N

Guest

ChaitanyaPatil Pabil

Outside your organization

Dr. S. POORNA PRAJNA (Guest)

Guest

Ganesh Chougule

Outside your organization

INDRAJEET JAIN

# CAREER OPPORTUNITIES IN CIVIL ENGINEERING

Indrajeet M. Jain,  
Head, Department of Civil Engineering  
Sinhgad Institute of Technology and Science, Pune, M.S.  
9011010002 | prof.indrajeetjain@gmail.com  
Audience: {Students; Faculty}

ACS College of Engineering\_Bangalore Webinar Talk  
11 am - 12 pm | 18<sup>TH</sup> Dec, 2020

Sinhgad Institutes

1106 18-12-2020

**Report  
of  
Webinar on  
“CASE STUDY ON 3R IN CIVIL  
ENGINEERING STRUCTURES”**

**Organized by**

**DEPARTMENT OF CIVIL ENGINEERING**

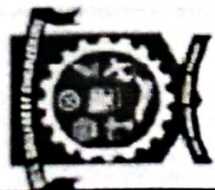
**29<sup>th</sup> Dec 2020 @ 11.00 AM**

**Co-ordinators**

**Prof. Anju Anne Varghese**

**Prof. Pallavi H J**





# ACS

COLLEGE OF ENGINEERING



INSTITUTION'S  
INNOVATION  
COUNCIL  
Providing a framework for innovation

## DEPARTMENT OF CIVIL ENGINEERING

PRESENTS WEBINAR

ON

CASE STUDY ON 3R IN CIVIL ENGINEERING  
STRUCTURES

Resource person



Er. Sunil R K

Founder & CEO of 3E services  
Bangalore

DATE: 29<sup>th</sup> DECEMBER 2020

TIME: 11AM TO 12PM

[CLICK HERE FOR REGISTRATION](#)

[CLICK HERE TO JOIN THE WEBINAR](#)

Event Coordinator  
Prof. Anju Anne  
Prof. Pallavi H J  
Email: [anjuanne90@gmail.com](mailto:anjuanne90@gmail.com)

Organizer  
Dr. S. Kavitha  
HOD - Dept of Civil. Engg

Head of the Institution  
Dr. M. S. Murali  
Principal



## Activity in Brief.....!

Department of Civil Engineering successfully completed the Technical webinar on “**CASE STUDY ON 3R IN CIVIL ENGINEERING STRUCTURES**” delivered by **Er. Sunil R K, Founder and CEO of 3E Services, Bangalore** in Microsoft teams for the benefit of civil engineering faculty members and students as an enrichment and valuated course.

All Civil Engineering faculty members and students attended the program. The Program started at 11:00 AM and was greeted by Prof. Anju Anne Varghese. Introduction of Chief Guest was done by Dr.S Kavitha, HOD of Department of Civil Engineering and thereby power point presentation by **Er. Sunil R K**.

He explained about his on site experience and different case studies on retrofitting of structures. The webinar was concluded with vote of thanks by Prof. Pallavi H J.



**Coordinator**

Prof. Anju



**Coordinator**

Prof. Pallavi H J



**HOD/Civil**

Dr.S Kavitha



Reg-3R

All changes saved in Drive

Send

Questions

Responses 52

52 responses

Accepting responses

Summary

Question

Individual

Who has responded?

Email

harikrishnansaran777@gmail.com

jacobisrael160760@gmail.com

alshahswarya20@gmail.com

rowheenjilani23@gmail.com

sandeepkumar99@gmail.com

CASE STUDY ON 3R IN CIVIL ENGINEERING STRUCTURES

59:41

20

Leave

ST

V

M2

P

RE

Screen

Manuscript A Post

virtual point focused

Sanal RK CHIL, SE SERVICE

Logika Raghava

Sanal RK, CHIL, SE SERVICE (Guest)

Manuscript A Post

virtual point focused

Sanal RK CHIL, SE SERVICE

Logika Raghava







# CASE STUDY ON BR IN CIVIL ENGINEERING STRUCTURES

01:35:52

Recording is being saved. Recording has stopped. You can find the link to the recording in meeting chat history. [00:00:00]

Dismiss

R

MJ

BP

BN

MS

V

VP

J

AS

R

NP

DO



## Feedback of "CASE STUDY CONCRETE COWL ENGINEERING STRUCTURES"

Feedback of Case Engineering / Case Engineering

Enter Address:

and email address:

The following is the feedback of the case study:

Structure:

1.

2.

## Feedback of "CASE STUDY CONCRETE COWL ENGINEERING STRUCTURES"

What is the structure?

1.

2.

3.

4.

5.



**ACS COLLEGE OF ENGINEERING**



**DEPARTMENT OF CIVIL engineering**

**Conducted a Webinar on**

**“CASE STUDY ON 3R IN CIVIL  
ENGINEERING STRUCTURES”**

**for Students and Faculty**

**Thanks To our speaker**



**Er. Sunil R K**

**Founder & CEO of 3E services  
Bangalore**





# ACS COLLEGE OF ENGINEERING



## CERTIFICATE OF PARTICIPATION

This is to certify that

**Ms. AISHWARYA IMBRAPUR**

*has participated in the webinar entitled "CASE STUDY ON 3R IN  
CIVIL ENGINEERING STRUCTURES" organized by Department of  
Civil Engineering on 29<sup>th</sup> December 2020.*

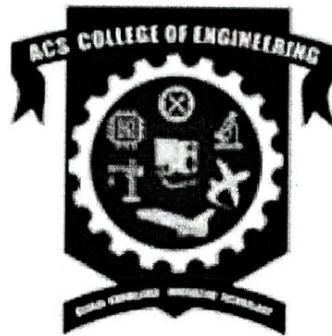
Prof. Anju Anne Varghese  
Co-ordinator

Prof. Pallavi H. J.  
Co-ordinator

Dr. S. Kavitha  
HOD/Civil

Dr. M. S. Murali  
Principal

# **ACS COLLEGE OF ENGINEERING**



## **Department of Civil Engineering**

### **Report of Webinar on**

### **“STORMWATER DRAINAGE”**

**On 25<sup>th</sup> June 2021 @12 PM**

### **Co-ordinators**

**Prof. Anju Anne Varghese**

**Prof. Shivashankar K M**





# ACS COLLEGE OF ENGINEERING

207 Kambhura, Mysore road, Bangalore-560074



INSTITUTION'S  
INNOVATION  
COUNCIL  
University of Education

## DEPARTMENT OF CIVIL ENGINEERING PRESENTS WEBINAR ON

### “Stormwater Drainage”

Resource Person



**PROF. RANGANATHAN B. A**

25<sup>th</sup> June 2021 at 12:00 PM

[Click Here for  
Registration](#)

[Click here to  
Join the webinar](#)

Event Coordinators

Prof. Anju Anne

Prof. Shiva Shankar K M

Organizer

Dr. Subhas Chandra Bose

Assoc. Prof - Dept of Civil Engg

Head of the Institution

Dr. M. S. Murali

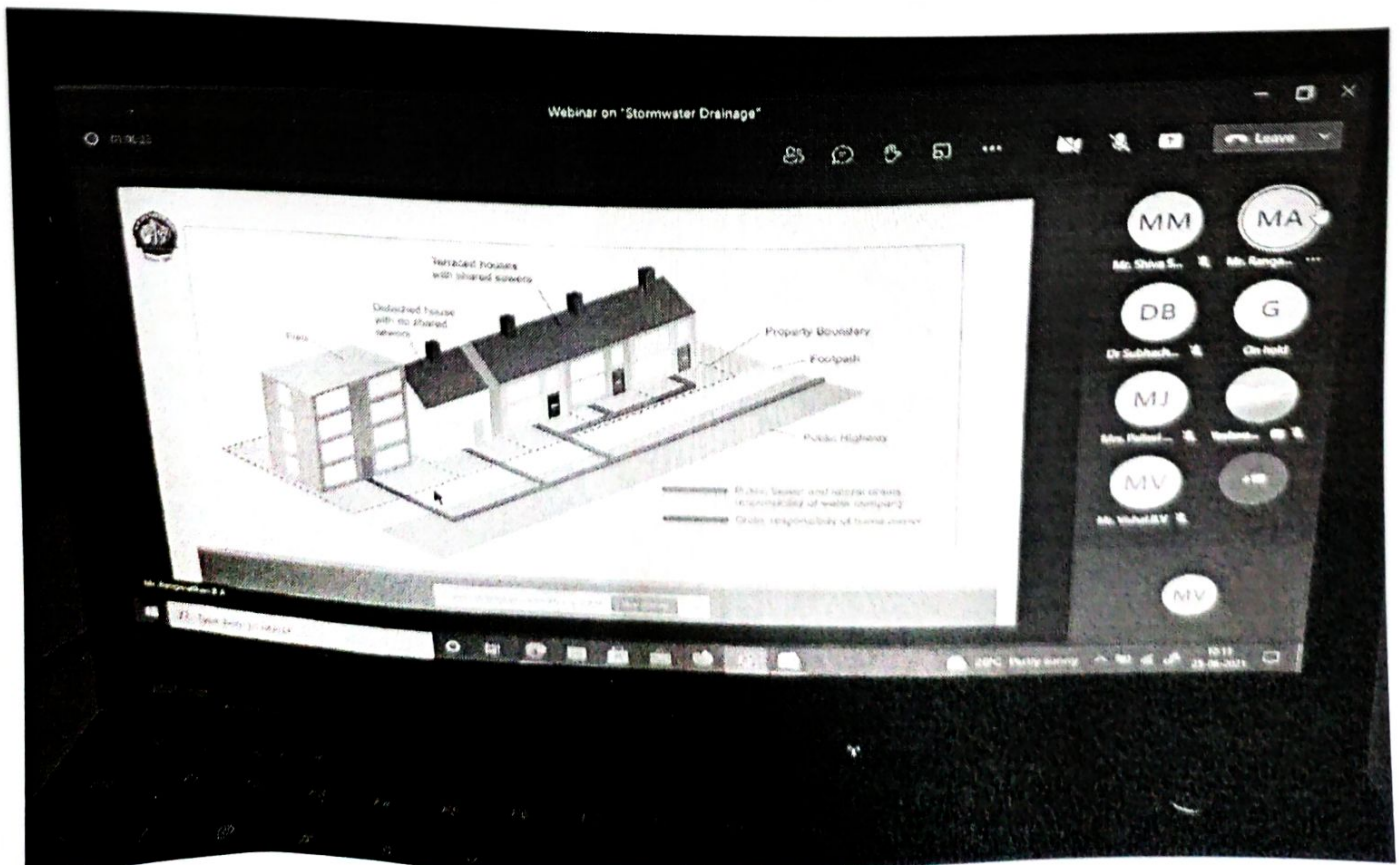
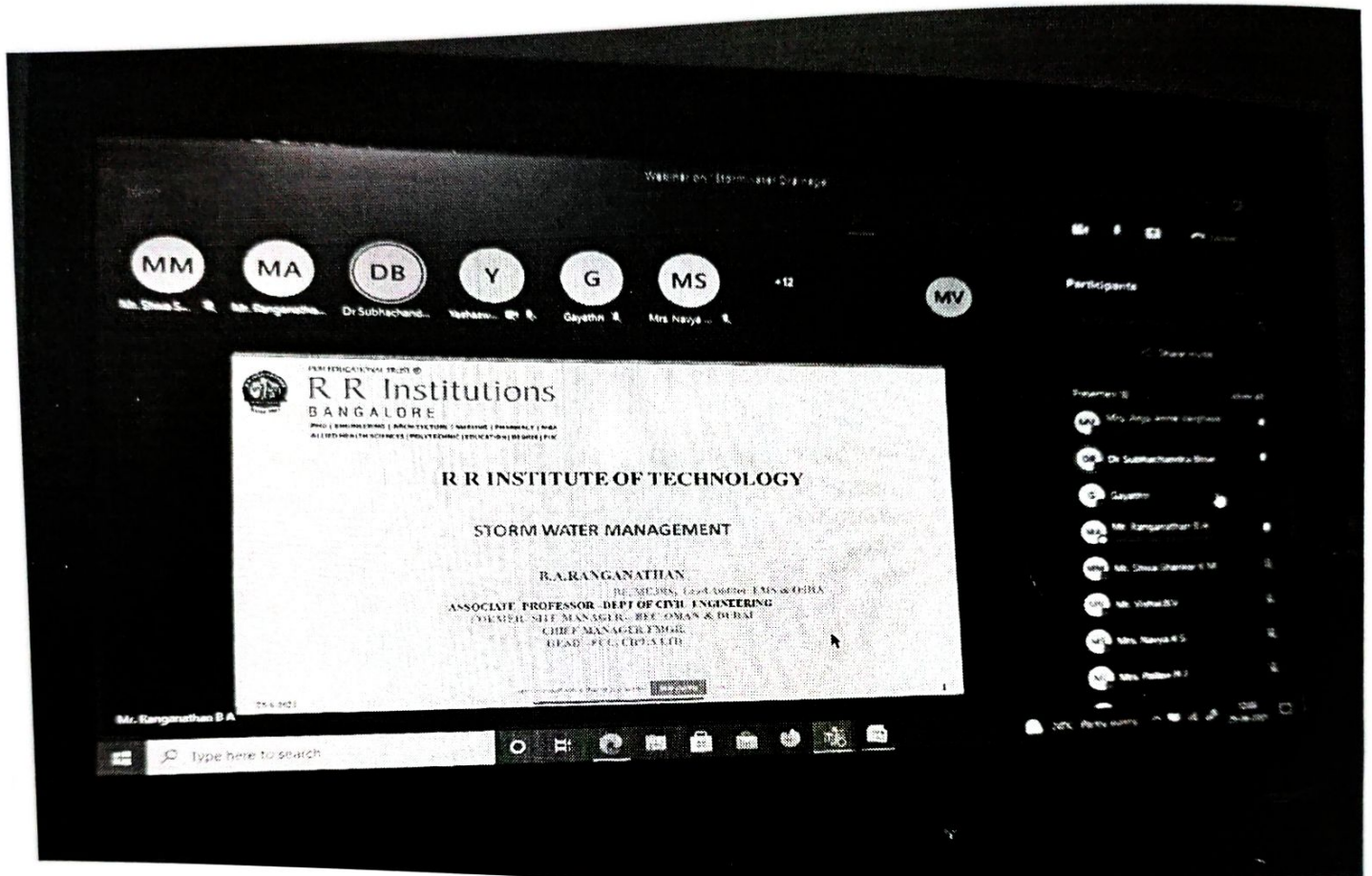
Principal

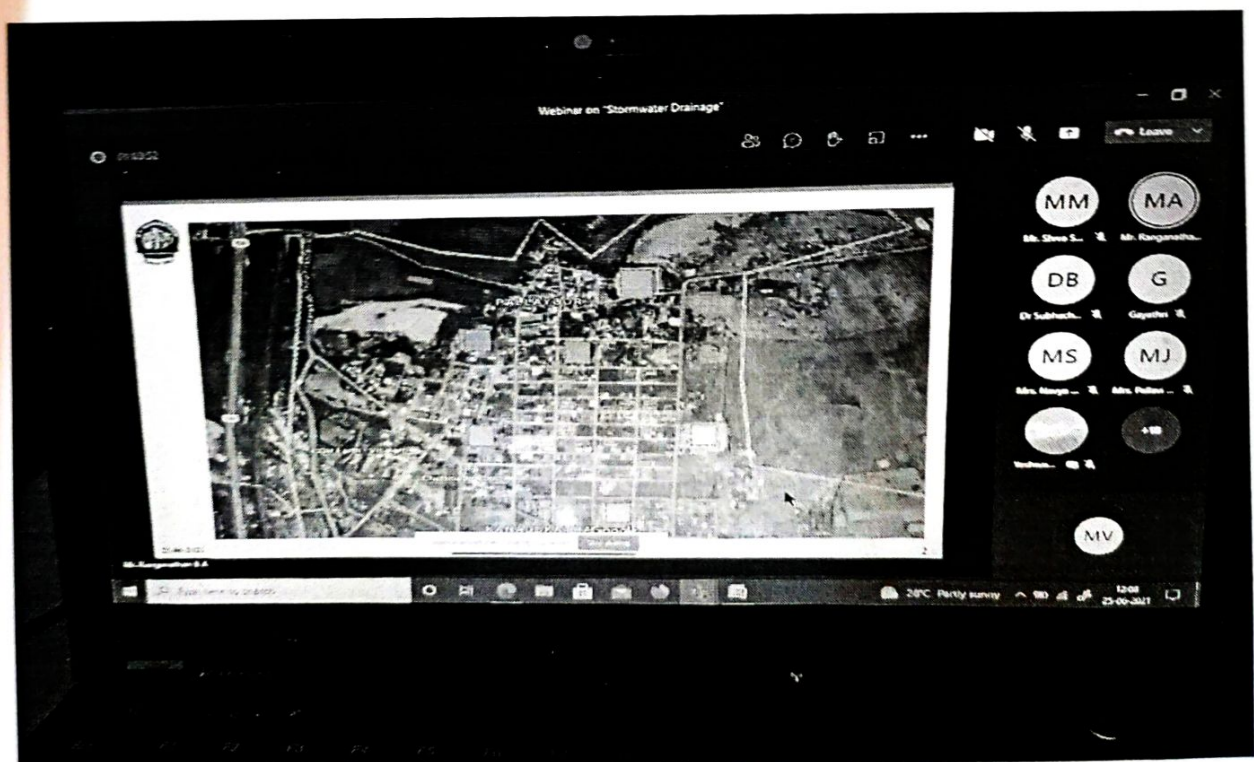
## Activity in Brief.....!

Department of Civil Engineering successfully completed the webinar on "Stormwater Drainage" on 25<sup>th</sup> June 2021. The webinar started at 12 PM by welcome speech by Prof. Anju Anne Varghese, Coordinator and introducing the speaker to all the participants by Dr. Subhash Chandra Bose. Then the session was taken over by Prof. Ranganathan B A, the Guest Speaker. The speaker started the session by giving introduction to Stormwater runoff, described about stormwater management, principles to be followed for a proper design and construction of the house drainage. It was overall a very informative presentation. It gave deep insight & added values to the Environmental Engineering. Vote of thanks was given by Prof. Shivashankar K M, Coordinator.



# GALLERY:







## Registration Form:

### Registration for Webinar on "Stormwater Drainage"

Civil Engineering Department of ACS College of Engineering, Bangalore organizes webinar on 25th June 2021

Email \*

Valid email

This form is collecting emails. [Change settings](#)

Name of Participant (login with your full name or email id during the webinar) \*

Short answer text

Salutation \*

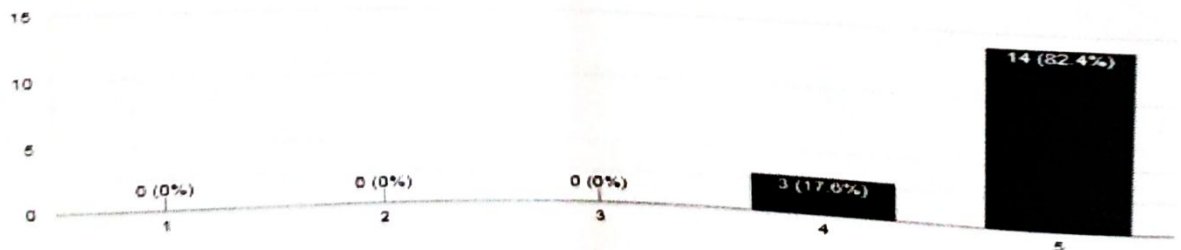
☐ Dr.

☐ Mr.

## Feedback

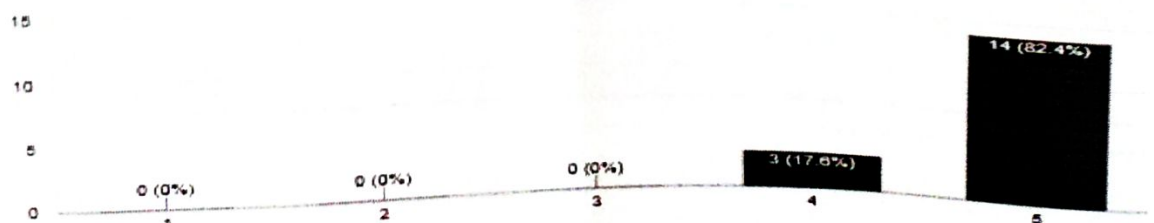
How would you rate the content of Webinar?

17 responses



How would you rate the level and amount of information provided?

17 responses



## Certificates awarded:



# ACS COLLEGE OF ENGINEERING





## CERTIFICATE OF PARTICIPATION

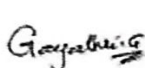
This is to certify that

**Mr. Vishnu Jeevaji M**

*has participated in the webinar entitled "STORMWATER DRAINAGE"  
organized by Department of Civil Engineering on 25<sup>th</sup> June 2021.*

  
Prof. Anju Anne Varghese  
Co-ordinator

  
Prof. Shiva Shankar K.M.  
Co-ordinator

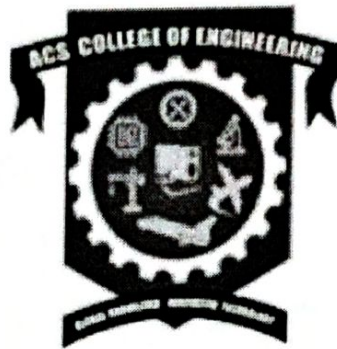
  
Prof. Gayathri G  
HOD/Civil

  
Dr. M. S. Murali  
Principal

   
(Anju Anne Varghese) Shiva Shankar K.M.



# **ACS COLLEGE OF ENGINEERING**



## **Department of Civil Engineering**

### **Report of Technical Seminar on**

### **“Subsurface Containment and Monitoring System”**

**On 2nd June 2021 @11AM**

**Co-ordinators**

**Dr. Subash Chandra Bose**

**Prof. Vishal B V**



# ACS College of Engineering

Affiliated to VTU, Belagavi, Approved by AICTE, New  
Delhi and Govt. of Karnataka, Bengaluru-74

## Department of Civil Engineering

# Subsurface Containment and Monitoring System

Webinar

Dr M Umashankar  
Associate Professor  
School of Civil Engineering  
VIT ,Vellore

Registration link: <https://rb.gy/qcdey9>

### Co-ordinators

Dr.Subash Chandrabose, Assoc. Professor  
Phone :9840453574

Vishal B V, Asst. Professor  
Phone:9738466405



Scheduled on  
2nd June 2021@11AM

Join Microsoft Teams ID :  
<https://rb.gy/jtoids>

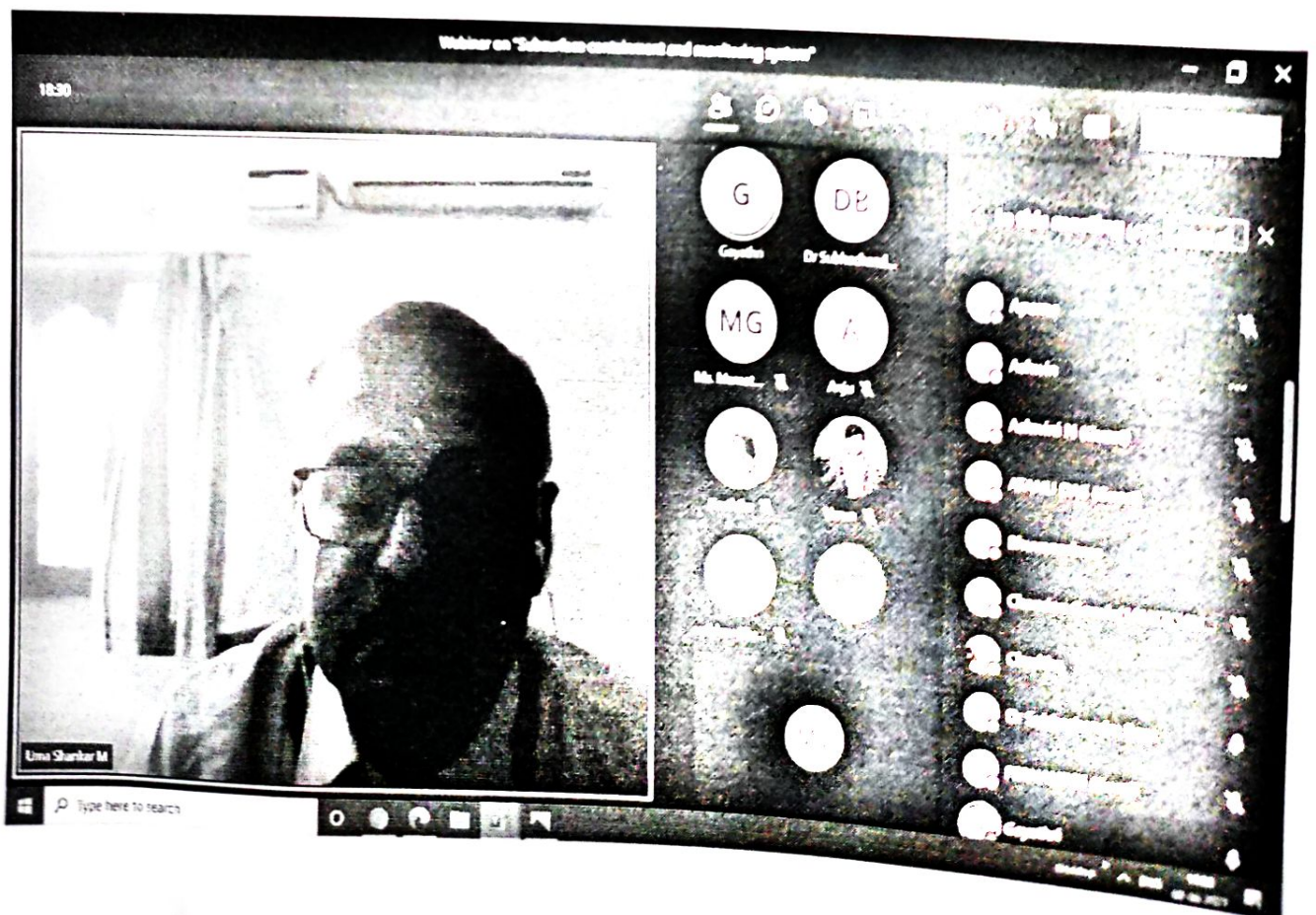
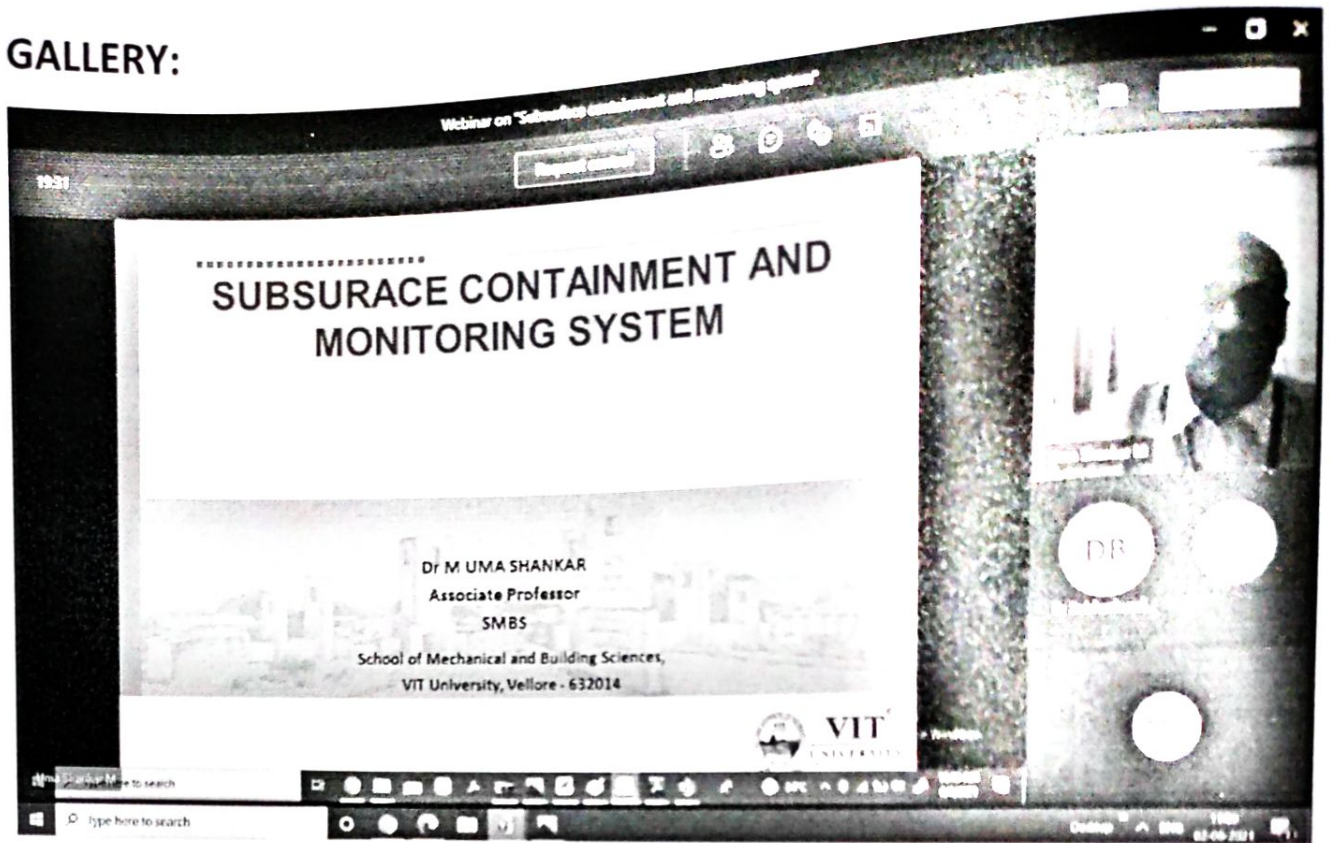
Admission Open for 2021-22  
AE, AS, BME, CV, CSE, EC, ME  
Phone: 9900500028/9908645678  
E-mail: [admission@acsce.edu.in](mailto:admission@acsce.edu.in) Website: [www.acsce.edu.in](http://www.acsce.edu.in)



### Activity in Brief.....!

Department of Civil Engineering successfully completed the Technical webinar on "Subsurface Containment and Monitoring System" on 2nd June 2021. The Seminar started @ 11AM by welcome speech by Gayathri G, HOD & introducing the speaker to all the participants by Dr. Subash Chandra Bose, Coordinator. Then the session was taken over by Dr.M Umashankar the Guest Speaker. The speaker started the session by giving introduction to Subsurface Containment. He has also stressed about need for Monitoring System. He gave information on various Monitoring System. It was overall a very informative presentation. It gave deep insight & added values to the Environmental Engineering. Vote of thanks was given by Vishal B V, Assistant professor, Coordinator.

## GALLERY:





Webinar on "Subsurface containment and monitoring system"

25.05

Request control

VIT UNIVERSITY

### Distribution of Earth's Water

Category	Sub-category	Percentage
Earth's water	Saline (oceans)	97%
	Fresh-water	3%
Freshwater	Icecaps and Glaciers	68.7%
	Ground water	30.1%
	Other	0.9%
Fresh surface water (liquid)	Lakes	87%
	Swamps	11%
	Rivers	2%
Surface water		0.3%

Uma Shankar M

DB

+47

Dr Subhach...

MV

11:15 AM 02/06/2021

Webinar on "Subsurface containment and monitoring system"

44.59

Request control

VIT UNIVERSITY

### MASS TRANSPORT MECHANISM

- Major process affecting contaminants in subsurface can be grouped into
  - Transport Processes
  - Chemical mass transfer process
  - Biological processes or Biodegradation

Non Reactive contaminants are dissolved contaminants that are not influenced by chemical reactions or microbiological processes.

Reactive contaminants these transport processes are considered along with the various chemical mass transfer and microbial degradation processes.

**Transport Process:**

Advection or advective transport refers to contaminant movement along groundwater in response to hydraulic gradient. Hence it follows Darcy's law

Uma Shankar M

Participants

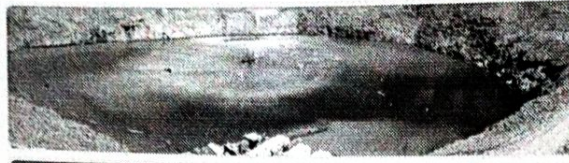
Invite someone or dial a number

Share invite

- A Ashwin
- AD ATANU DAS (Guest)
- B Bhuvanashree
- Charitha
- DB Dr Subhachandra Bose
- F FERNANDES (Guest)
- G Gayathri
- G Givarna

11:11 AM 02/06/2021

## Registration Form:



### Webinar on "Subsurface containment and monitoring system"

Date: 02/06/2021  
Time: 11AM - 12:30PM

\* Required

Name \*

Your answer

Email \*

Your answer

Organization \*

## Feedback Form:

### Feedback Form

Department of Civil Engineering, ACSCE, Bangalore organizes Webinar on "Subsurface Containment and Monitoring System" on 2nd June 2021

\* Required

Name \*

Your answer

EMAIL ID \*

Your answer

How would you rate the content of the webinar? \*

1

2

3

4

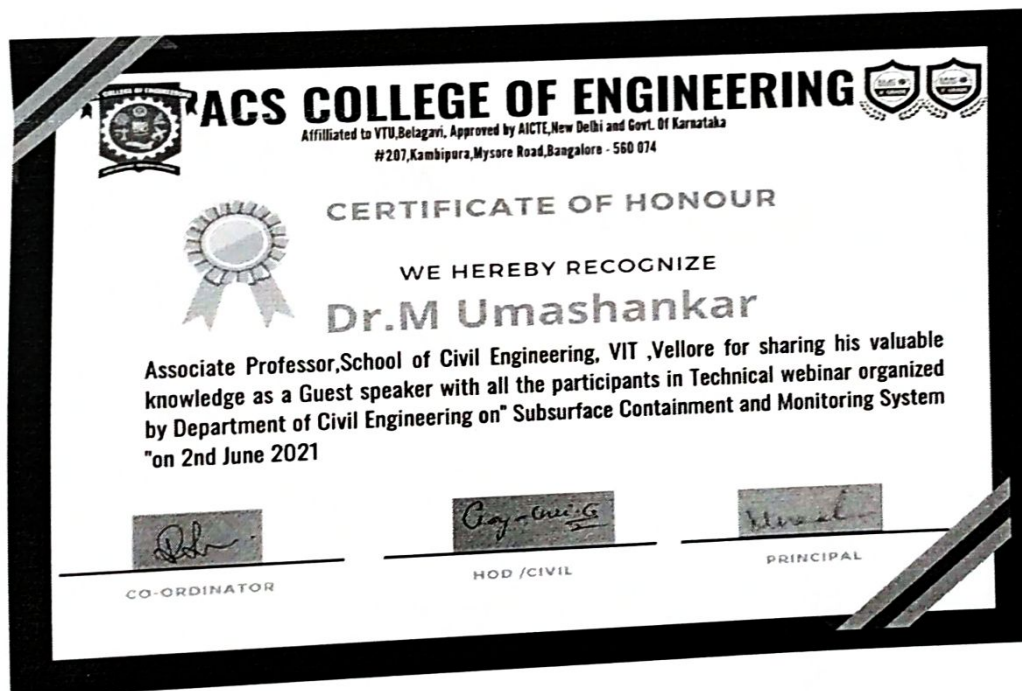
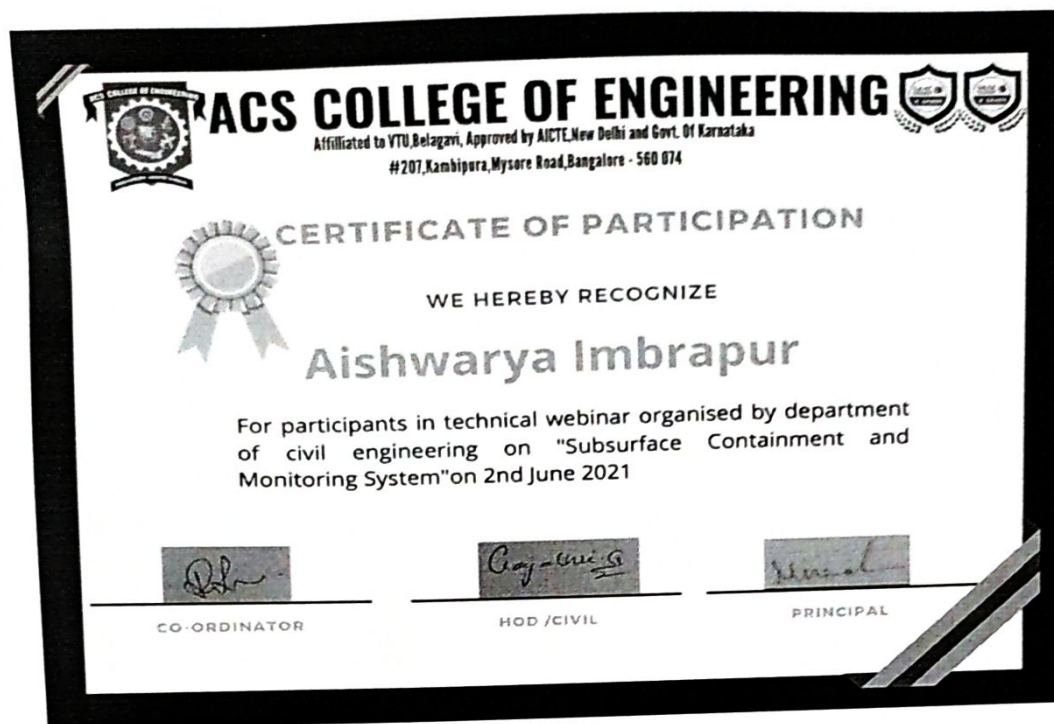
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☐☐☐☐☐

How would you rate the level and amount of information provided? \*



## Certificates awarded:



*Dr. R. Subash*  
(Dr. R. Subash)

*Yishal B.V.*  
[Yishal B.V.]

**Report  
of  
Technical Seminar  
on  
“SUSTAINABLE AND FUTURISTIC  
CONCRETE”**

**Organized by  
DEPARTMENT OF CIVIL ENGINEERING**

**21<sup>st</sup> Dec 2020 @ 11.00 AM**

**Co-ordinators**

**Prof.Vishal B V**

**Prof.Mamatha P G**



# ACS COLLEGE OF ENGINEERING



## DEPARTMENT OF CIVIL ENGINEERING

Established in the year

**1984**  
**AND**  
**FORWARD**  
**CONCRETE**

DATE OF ESTABLISHMENT

THE ACS COLLEGE



**UNIVERSITY**

**DEPARTMENT OF**

**ENGINEERING**

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## Activity in Brief.....!

Department of Civil Engineering successfully completed the Technical webinar on "SUSTAINABLE AND FUTURISTIC CONCRETE" was delivered by Dr.T.Visalakshi, Professor & HOD, Department of Civil Engineering, Bennett university, Uttar Pradesh in Microsoft teams for the benefit of civil engineering faculty members and students as a enrichment and Valuted course.

All Civil Engineering faculty members and students attended the program. The Program was started and greeted by Asst. Prof. Mamatha P G. Introduction of Chief Guest was done by HOD Dr.S Kavitha. The program started at 11:00 AM with Power Point Presentation by Dr.T.Visalakshi and she Explained about the history of construction materials, sustainability of materials and futuristic concrete. The webinar was concluded with vote of thanks by Vishal BV, Asst. Prof.

Coordinator

Prof Vishal B V

Prof.Mamath P G

HOD/Civil

Dr.S Kavitha



Zoom Meeting Screenshot 1

Slide Title: Sustainable and Futuristic Concrete

Speaker: Dr. T. Visalakshi, Professor & Head, Department of Civil Engineering, Bennett University, Greater Noida

People List (23):

- VISHAL (Guest)
- Ashwin
- Bhuvanashree
- Charitha
- dirpranabdas
- HariDass
- inchara
- Jayaprakash
- Mohd Hussain

Meeting Controls: 01:26, Microphone, Video, Chat, Share Screen, Request Control

Participant Avatars: Sumanth, Ms. Mamatha P G, sajala katha

Zoom Meeting Screenshot 2

Participant Video: Ms. Mamatha P G

People List (22):

- VISHAL (Guest)
- Ashwin
- Bhuvanashree
- Charitha
- dirpranabdas
- HariDass
- inchara
- Jayaprakash
- Mohd Hussain
- Ms. Mamatha P G
- Navya KS

Meeting Controls: 00:14, Microphone, Video, Chat, Share Screen, Request Control

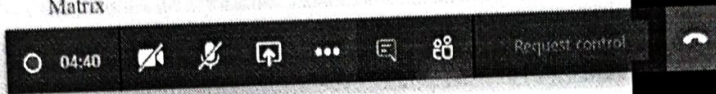
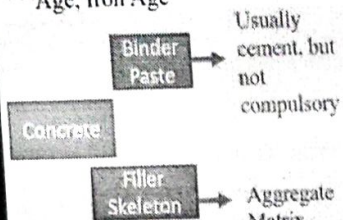
Participant Avatars: J, C, B, A, MG, VK, R, S, S





## Pre Portland Concrete

- In early civilizations, the most predominant building materials were stone, wood and clay
- As time went by, mans needs increased, thus he began to use materials of increased strength, durability and better appearance. In this context, building materials consecutively developed.
- The importance of construction materials is so relevant that history was divided according to the predominant use of one or another material: the Stone Age, Bronze Age, Iron Age



## People

Currently in this meeting (29)

V	VISHAL (Guest)	
sanjid		
1	1AH16CV043	
1	1AH19C5E08	
A	Ashwin	
B	Bhuvanashree	
C	Charitha	
D	drpranabdas	
H	HariDass	
I	inchara	
J	Jayaprakash	

Talakokula Visalakshi



+33

S

MG

S

SK

Ms. Mamatha P G

Sumanth

sajjala kavitha

Desktop ENG 11:12 21-12-2020

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## Field applications

House built at Santa Clara, Cuba with LC3



Talakokula Visalakshi



+20

Y

J

B

R

MG

S

SK

Rowheen

Ms. Mamatha P G

Sumanth

sajjala kavitha

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**ACS COLLEGE OF ENGINEERING**



INSTITUTION'S  
INNOVATION  
COUNCIL

**DEPARTMENT OF CIVIL ENGINEERING**

Conducted a Webinar on

**"SUSTAINABLE AND FUTURISTIC CONCRETE"**  
for Students and Faculty

Thanks to our speaker



---

**Dr. T. VISALAKSHI**

**Professor & HOD**

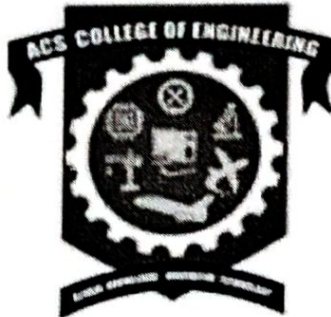
**Department of Civil Engineering**

**Bennett University**

**Uttar Pradesh**



# **ACS COLLEGE OF ENGINEERING**



## **Department of Civil Engineering**

### **Report of Webinar on**

### **“VIBRATION RESPONSE OF TALL BUILDINGS”**

**On 2<sup>nd</sup> July 2021 @12 PM**

**Co-ordinators**

**Prof. Pallavi H J**

**Prof. Navya KS**





# ACS COLLEGE OF ENGINEERING

207, Ramhipura, Mysore road, Bangalore-560074



## **"Vibration Response of Tall Buildings"**



02 July 2021 at 12:00 PM

[Click Here for  
Registration](#)

[Click here to  
Join the webinar](#)

**Prof. Pallavi H J**  
**Prof. Navya K S**

**Prof. Gayathri G**  
**HOD - Dept of Civil. Engg**

**Dr. M.S. Murali**  
**Principal**

### Activity in Brief.....!

Department of Civil Engineering successfully completed the webinar on "Vibration response of Tall Building" on 2<sup>nd</sup> July 2021. The webinar started at 12 PM by welcome speech by Prof. Pallavi H J, Coordinator and introducing the speaker to all the participants by Dr. Subhash Chandra Bose. Then the session was taken over by Prof. Shiva Kumar K S, the Guest Speaker. The speaker started the session by giving introduction to vibration of tall building, described about the tall building, sources of vibration, principles to be followed for a proper design of tall building and effect of vibration on tall building with various parameter. It was overall a very informative presentation. It gave deep insight & added values to the Civil Engineering and its various branches such as Structural, earthquake, etc. Vote of thanks was given by Prof. Navya KS, Coordinator.

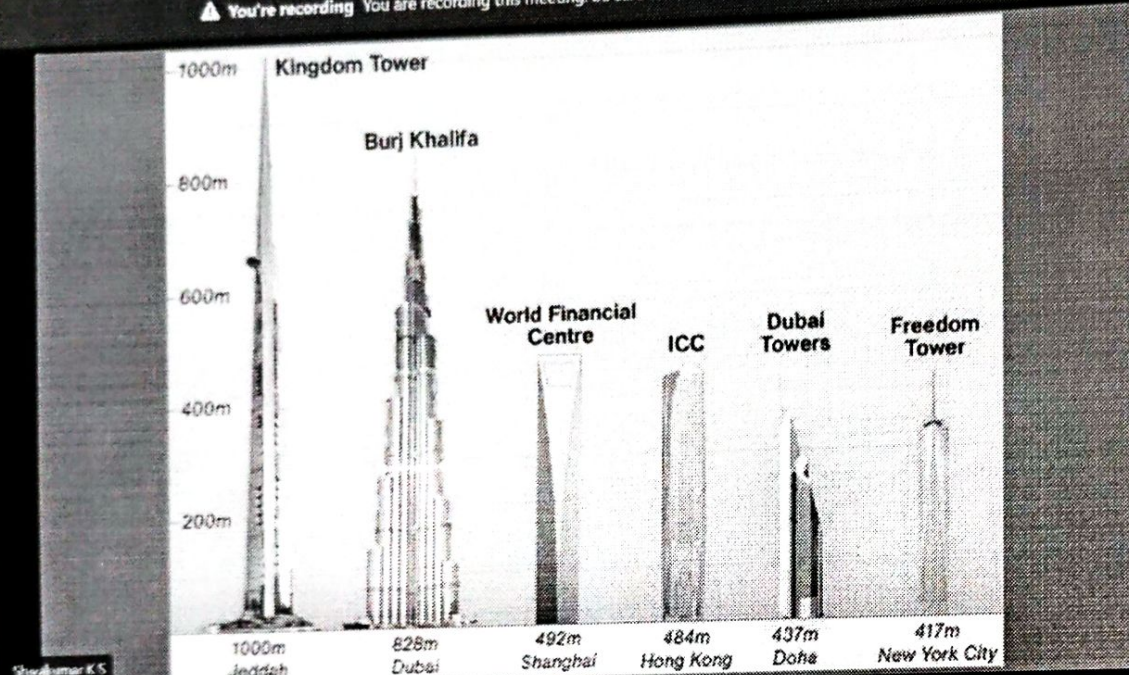


# ALLERY:

Webinar On "Vibration Response of Tall Buildings"

38:46

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Building	Height (m)	Location
Kingdom Tower	1000m	Jeddah
Burj Khalifa	828m	Dubai
World Financial Centre	492m	Shanghai
ICC	484m	Hong Kong
Dubai Towers	437m	Doha
Freedom Tower	417m	New York City

Shivakumar K S

SS Shivakumar K S

MV On hold

R Rowheen

MJ Mrs. Pallavi

Vishnu

MS

29°C Light rain 12:12 02-07-2021

Webinar On "Vibration Response of Tall Buildings"

50:41

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## Classification Vibration

Vibration can be classified in several ways. Some of the important classifications are as follows.

- a) Free and forced vibration
- b) Undamped and damped vibration
- c) Linear and nonlinear vibrations
- d) Deterministic and random vibration

The terminology of **"Free Vibration"** is used for the study of natural vibration modes in the absence external loading.

The terminology of **"Forced Vibration"** is used for the study of motion as a result of loads that vary rapidly with time. Loads that vary rapidly with time are called dynamic loads.

Shivakumar K S

SS Shivakumar K S

F FERNANDE...

MJ Mrs. Pallavi

Vishnu

vaibhav (Gu...

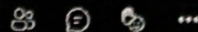
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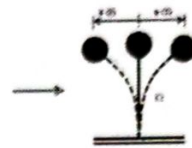
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### Degrees of freedom

- Number of independent coordinates required to specify the configuration of the system at any given time
- Single Degree of Freedom SDOF
- Multiple Degrees of Freedom MDOF

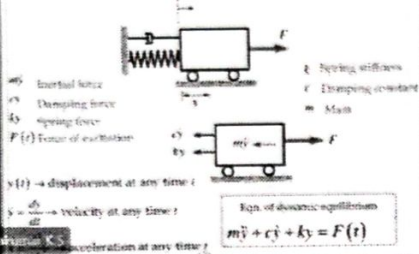
### Idealization of a structural system as SDOF system

- This 3-dimensional water tower may be considered as a single degree of freedom system when one considers vibration in one horizontal direction only.

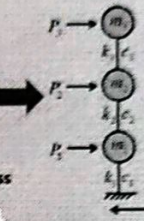
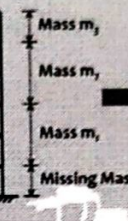
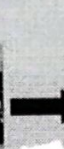


SDOF model of water tank

### Dynamic equilibrium - SDOF system



### Idealization



Shivakumar K.S.



FERNANDEZ...



MJ



Min. Pallavi...



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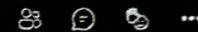
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### DYNAMIC CHARACTERISTICS OF BUILDINGS

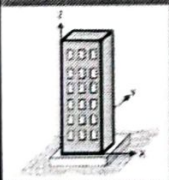
#### Natural Period

Natural Period  $T_n$  of a building is the time taken by it to undergo one complete cycle of oscillation. It is an inherent property of a building controlled by its mass  $m$  and stiffness  $k$ . These three quantities are related by

$$T_n = 2\pi \sqrt{\frac{m}{k}}$$

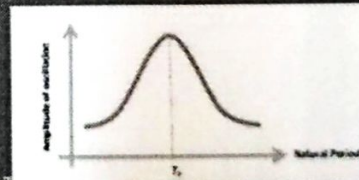
its units are seconds (s). Thus, buildings that are heavy (with larger mass  $m$ ) and flexible (with smaller stiffness  $k$ ) have larger natural period than light and stiff buildings.

Buildings oscillate by translating along X, Y or Z directions, or by rotating about X, Y or Z axes, or by a combination of the above.



$$\omega_n = \sqrt{\frac{k}{m}}$$

$$T_n = \frac{2\pi}{\omega_n}$$



of natural period  $T_n$  of a building is the time taken by it to undergo one complete cycle of oscillation. It is an inherent property of a building controlled by its mass  $m$  and stiffness  $k$ . These three quantities are related by

shaken at its natural frequency (or natural period). Hence, it undergoes larger oscillation when shaken at its natural frequency than at other frequencies.



Shivakumar K.S.



Vishnu



SR



SR



G



+17



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MS

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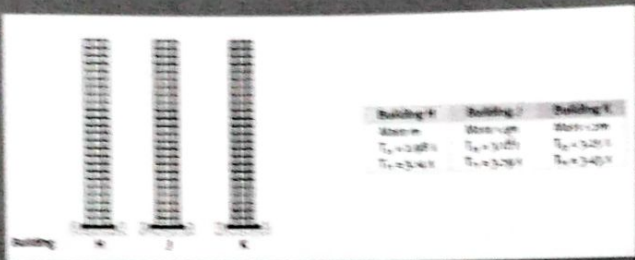
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### (2) Effect of Mass

An increase in mass of a building increases its natural period. Buildings H, J and K are all 25-story buildings with same plan size, elevation and column sizes, but with different floor mass. Imposed floor mass in building H is 2.038kN while that in buildings J and K are 10% and 20% larger, respectively. Fundamental (translational) natural periods of heavier buildings K (5.43 s) and J (3.29 s) are larger than that of building H (3.14 s).

$$\omega_n = \sqrt{\frac{k}{m}}$$

$$T_n = \frac{2\pi}{\omega_n}$$



Effect of mass: Heavier buildings have larger natural period

SS  
Shivam K.S.

Vidhu

SR  
Shubh R.G.

G  
Gayatri

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Gaurav

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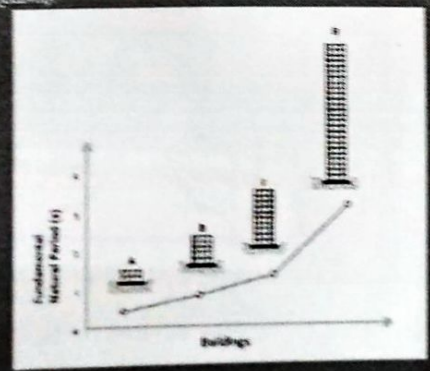
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### (3) Effect of Building Height

As the height of building increases, its mass increases but its overall stiffness decreases. Hence, the natural period of a building increases with increase in height. Buildings A, B, F and H have same plan size, but are of different heights. Taller buildings have larger fundamental natural period than shorter ones. The fundamental translational natural periods of 25-story building H, 10-story building F, 5-story building B and 2-story building A are 2.14s, 1.35s, 0.87s and 0.45s, respectively.



$$\omega_n = \sqrt{\frac{k}{m}}$$

$$T_n = \frac{2\pi}{\omega_n}$$

Effect of building height: Taller buildings have larger natural period

SS  
Shivam K.S.

Vidhu

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Shubh R.G.

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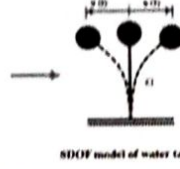
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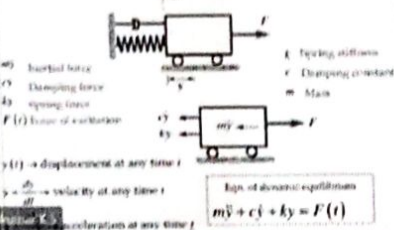
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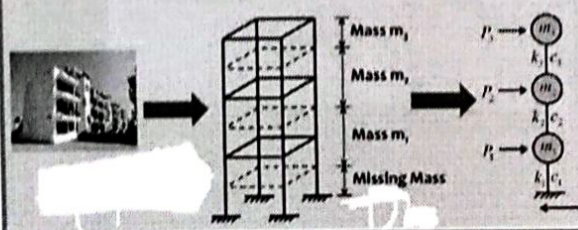


SDOF model of water tank

### Dynamic equilibrium - SDOF system



### Idealization



SS

Shivakumar K.S

F

FERNANDEZ

MJ

Mrs. Pallavi

Vishnu

Vishnu

Vishnu

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### DYNAMIC CHARACTERISTICS OF BUILDINGS

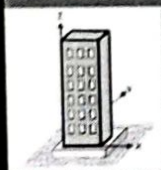
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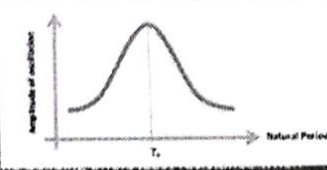
Its units are seconds (s). Thus, buildings that are heavy (with larger mass  $m$ ) and flexible (with smaller stiffness  $k$ ) have larger natural period than light and stiff buildings.

Buildings oscillate by translating along X, Y or Z directions, or by rotating about X, Y or Z axes, or by a combination of the above...



$$\omega_n = \sqrt{\frac{k}{m}}$$

$$T_n = \frac{2\pi}{\omega_n}$$

the Natural Frequency,  $\omega_n$ 

shaken at its natural frequency (or natural period). Hence, it undergoes larger oscillation when shaken at its natural frequency than at other frequencies.

SS

Shivakumar K.S

Vishnu

SR

Vishnu

G

Gayatri

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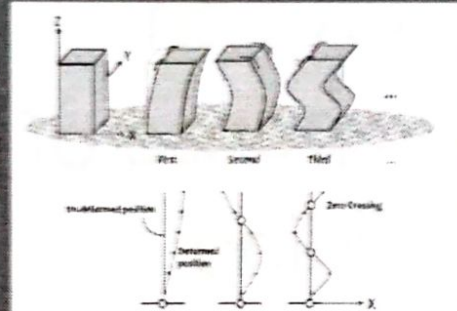
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### Mode Shape

Mode shape of oscillation associated with a natural period of a building is the deformed shape of the building when shaken at the natural period. Hence, a building has as many mode shapes as the number of natural periods. For a building, there are infinite numbers of natural period. But, in the mathematical modelling of building, usually the building is discretised into a number of elements.



Fundamental and two higher translational modes of oscillation along X-direction

SS

Shivakumar K.S

Vishnu

SR

Shalini R (G...)

G

Girivarna

R

Rakesh S (G...)

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MS

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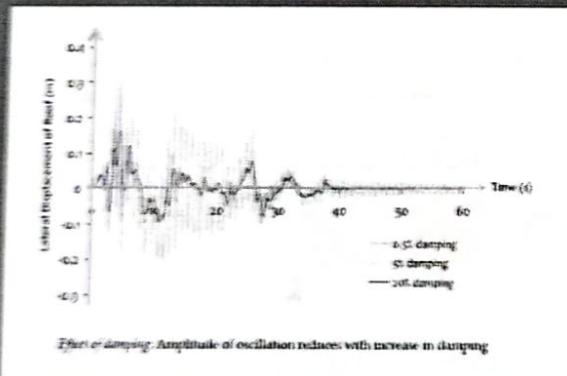
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### Damping

Buildings set in oscillation by earthquake shaking eventually come back to rest with time. This is due to dissipation of the oscillatory energy through conversion to other forms of energy, like heat and sound. The mechanism of this conversion is called damping.

The time histories of lateral displacement of roof of 25-storey building  $H$  are shown in fig below for three values of viscous damping of 0.5%, 5% and 20% of critical. When subjected to an earthquake ground motion at the building base, the amplitude and duration of oscillation decreases with increase in damping.



SS

Shivakumar K.S

Vishnu

SR

Shalini R (G...)

G

Girivarna

R

Rakesh S (G...)

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MS

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# Vibration Response of Tall Building

Department of Civil Engineering, ACSCE,  
Bengaluru organizes Webinar

\* Required

Name \*

Your answer

Email \*

Your answer

Phone Number \*





## Feedback

Feedback of "Vibration Response of Tall Building"

Department of Civil Engineering, ACSCE, Bengaluru-74

Email

Short answer text

Salutation \*

☐ Dr.



☐ Mr.

☐ Mrs.

☐ Ms

Full Name [to be printed in e-certificate]. \*

## Certificates awarded:


 **ACS COLLEGE OF ENGINEERING** Higher Education Trust 


**Certificate of Participation**

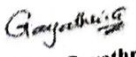
This is to certify that


**VISHNU JEEVAJI.M**

has participated in the webinar entitled "Vibration Response of Tall Buildings" organized by Department of Civil Engineering on 02<sup>nd</sup> July 2021.

  
**Prof. Pallavi H J**  
Co-ordinator

  
**Prof. Navya K S**  
Co-ordinator

  
**Prof. Gayathri G**  
HOD/Civil

  
**Dr. M. S. Murali**  
Principal