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Kadapa, Andhra Pradesh, India-516 003



Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu.

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Date: 07.07.2021

To

The Principal, K.S.R.M.College of Engineering, Kadapa.

Respected Sir,

Sub: KSRMCE - (Civil Engineering Department) Permission to conduct a Webinar on "Webinar on Importance of Geology" - Req -Reg.

It is being brought to your kind notice that, With reference to the cited, the Civil Engineering Department is planning to conduct a Webinar on "Importance of Geology" for B.Tech Civil students on 10th July, 2021 in Online mode from 11.15 PM - 12.15 PM. In this regard I kindly request you to grant permission to conduct the webinar.

Folwarded to phinipal Siv

Yours Faithfully,

Ch. Santosh Kumar

Asst. prof in Civil dept. Permissed muly 21



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07-07-2021

### Circular .

All the IV Year B. Tech students are here by informed that Department of Civil Engineering is going to conduct a Webinar on "Importance of Geology" on 10th July, 2021 in Online mode from 11.15 AM - 12.15 AM. Interested students may register their names with the Coordinator before 08th November 2021.

### Resource Person:

DVS Narasimha Rao, Associate Professor, Gurunanak Institution Technical Campus, **HYDERABAD** 

For any queries Contact,

#### Coordinators

Mr. Ch. Santosh Kumar, Assistant Professor in CED

Department of Civil Engineering K.S.R.M. College of Engineering (Autonomous)

KADAPA - 516 003. (A.P.)

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# DEPARTMENT OF CIVIL ENGINEERING

WEBINAR ON

Importance of GEOLOGY in Civil Engineering

# SPEAKER

D.V.S Narasimha Rao

M Sc, M.Phil in Geology, (Ph. D) Associate Professor,

Guru Nanak Institutions Technical Campus, Hyderabad.

# DATE & TIME

10-07-2021, @ 11:15AM TO 12:15 PM

Coordinator: Sri. Ch. Santosh Kumar, Dept. of Civil Engineering, KSRMCE

### Zoom meet link

https://us02web.zoom.us/j/81177222760? pwd=ZkphallrV0Y2Zm1CSFBoeU5aRmdDUT09



Dr. N. Amaranath Reddy HOD

Dr. V.S.S. Murthy Principal

Director

Prof. A. Mohan Sri. K. Chandra Obul Reddy Management Member

Smt K. Rajeswari Correspondent, Secretary, Treasurer Sri K. Madan Mohan Reddy Vice-Chairman

Sri K. Raja Mohan Reddy Chairman



(AUTONOMOUS)

Kadapa, Andhra Pradesh, India - 516 003

### DEPARTMENT OF CIVIL ENGINEERING

# Webinar on Importance of Geology In Civil Engineering

10th July 2021

### **REPORT**

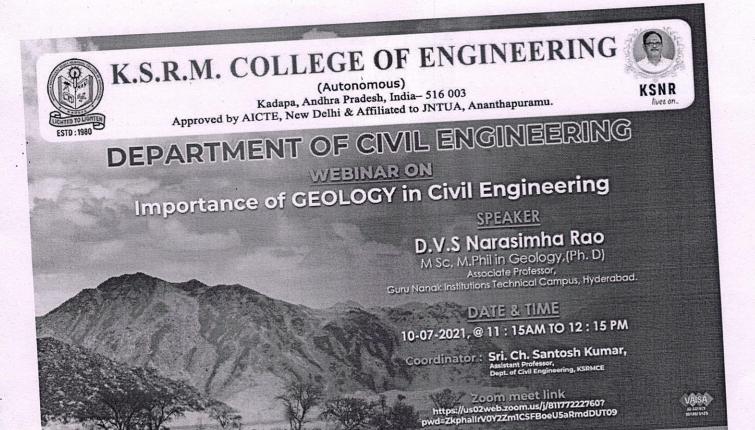
**Speaker:** Sri. DVS NARASIMHA RAO, Associate Professor & Ph.D. persuing in Gurunanak Institution Technical Campus.

### Importance of Geology in Civil Engineering:

**Geology** provides knowledge about the site used in the **construction** of buildings, dams, tunnels, tanks, reservoirs, highways and bridges. **Geology** helps to identify area susceptible to failures due to **geological** hazards such as earthquake, landslides, weathering effects, etc. Civil Engineers use geologist to examine rocks for important metals, oil, natural gas and ground water.

### The theme of the Webinar:

**Geology Theme** is split into the following sub-themes: **Geology**: provides basic knowledge about the physical properties and composition of **geologic** materials (rocks and sediments), their structure and their age as depicted in **geological** maps, as well as land forms.



Poster of the event: Webinar on Importance of Geology in Civil Engineering.

Management Member

Prof. A. Mohan Srl. K. Chandra Obul Reddy

Dr. N. Amaranath Reddy

https://us02web.zoom.us/j/81177222760?pwd=ZkphalIrV0Y2Zm1CSFBoeU5aRmd Zoom link: DUT09

Correspondent, Secretary, Treasurer

Smt K. Rajeswari Sri K. Madan Mahan Reddy Sri K. Raja Mohan Reddy

Google link: https://meet.google.com/eaz-wtzx-pkc

# About the Speaker:

official

Dr. V.S.S. Murthy

Sri. DVS Narasimha Rao Working as Associate Professor since 10 years in Gurunanak Institution Technical Campus, HYDERABAD. His Qualifications are MSc, M.Phil. In Geology, and Perusing Ph.D.

He Worked as Geologist/Resource Person around 14 years. He published around 10 papers in International Research Journals. He attended Workshop on Remote Sensing and GIS at JNTUH. He attained First Rank at Common Entrance Test in Geology at Kakatiya University, Warangal.

He awarded Best Teacher Award at 2014 in Gurunanak Institutions Technical Campus. He worked on projects based on Forest Evaluation Survey, Remote Sensing Projects, Soil Survey, and Watershed development Projects at GEMS,RSI Companies Undertaking Govt. Projects. He works as Photogrammetric for around 4 years at Navya Group.

**建设设施外基金可以**在

The Webinar was arranged by Department of Civil Engineering for the B.Tech. Students and faculty of the department. The venue was organized thorough virtual mode using Zoom meeting pro application purchased by Department of Civil Engineering, KSRMCE. The webinar was planned on 10<sup>th</sup> July, 2021 in morning session from 11 AM to 12.45 PM and the sessions were hosted by Dr. Amaranath Reddy (HoD), Sri. Ch. Santosh Kumar. A total of 75 students and some of the faculty members of Department of Civil Engineering were actively participated in the webinar.

### Welcome speech:

Sri. Ch. Santosh Kumar (Coordinator of the event), Assistant Professor, Dept. of Civil Engineering, KSRMCE expressed a very warm welcome to the HoD, faculty and students of the Civil Engineering Department. The coordinator introduced the guest of honors to the gathering; the brief of their education and professional experiences was read for the audience.

### HoD's words:

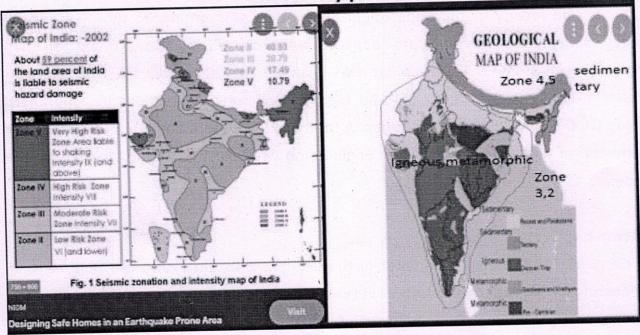
Dr. N. Amaranath Reddy, HoD & Associate Professor of the Dept. of Civil Engineering, KSRMCE addressed the gathering by welcoming the Guest DVS.NARASIMHA RAO to the event. HoD shared about the dedication towards work and capabilities of speakers as his students and how they evolved to stand in this position by continuous improvement.

### Presentation by the Speaker:

### Session (11 AM to 12.45 PM, 10<sup>th</sup> July, 2021):

The speakers explained one day plan of action of this webinar. Session is majorly concentrated on origin of Importance of Geology in Civil Engineering. It covers the importance of Geology in various engineering fields. This session gave brief idea on Where the Minerals and Rocks were found in India and how it is useful. The speakers explained about Earth Quake Zones Comparison with Rock type which are essential before going to work. The session ended with the explanation on Zone of intermittent saturation and unsaturated zone.

Earthquake zones Comparision with rock type

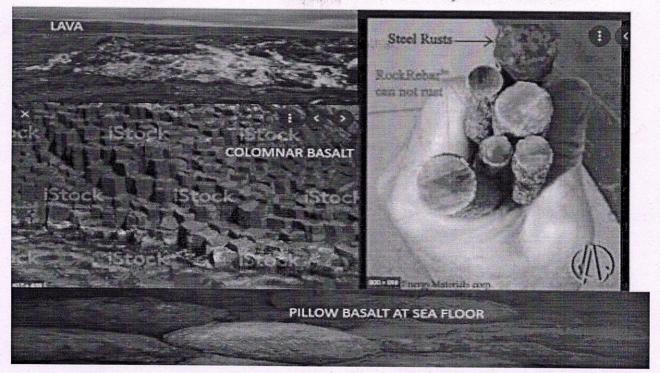


Plan of Webinar presented by speakers

# BASALT ROCK AS FUTURE REPLACE OF STEEL IN CONSTRUCTION



# Basalt as lava, in sea for millons of years rusted?



# GEOGOLOGICAL PROFILE COUNTS IN CIVIL ENGINEERING

SIMPLON TUNNEL-SWITZ (BRIG)TO ITALY(CHAISSO)

 SIMPLON TUNNEL-SWITZ (BRIG)TO ITALY(CHAISSO), RAIL TUNNEL, 19.3 KM LONGPASSING THROUGH GNEISS, LST, SHALES 2KM OF ALPS

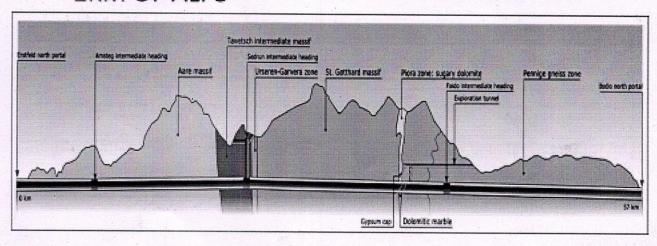
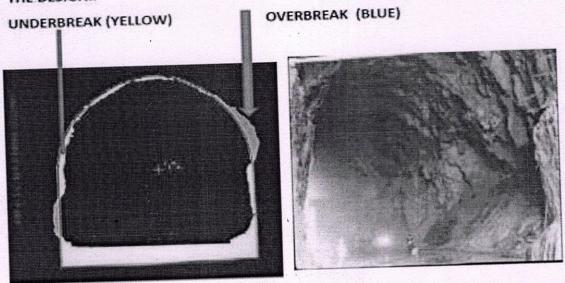


IMAGE PROCESSING TECHNIQUES CAN BE USED TO MEASURE OVERBREAK, AS IN THIS EXAMPLE FROM THE MEXICAN TUNNELS. THE MEASURED TUNNEL PROFILE IS OVERLAIN ONTO THE DESIGN PROFILE. OVERBREAK (BLUE) AND UNDERBREAK (YELLOW) ARE DEFINED OUTSIDE OF THE OF THE SPECIFIED TOLERANCE (GREEN) OF THE DESIGN...

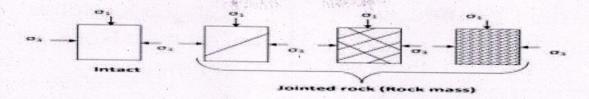


# OVERBREAK,OR UNDERBREAK STRUCTURAL RISK DUE TO GEOLOGY AND LOSS FOR CONTRACTOR?

 Overbreak of rock beyond the desgined periphery of a tunnel is a structural risk which more than occasionally results in filing of a claim by the contractor. It is difficult to estimate the overbreak risk at the time of tender with sufficient degree of accuracy because of the uncertainty associated with the geology, construction ...

## IMPACT OF STRUCTURAL GEOLOGY IN CE

Rock quality depends on joint characteristics



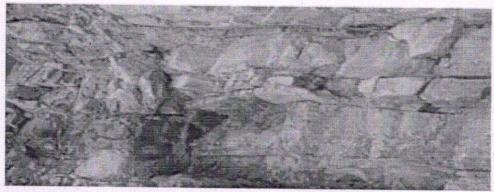


Figure 1.2: A typical view of rockmass encountered in the field

# Rock Mass Rating (RMR)

- The following six parameters are used to classify a rock mass using the RMR system
- Uniaxial compressive strength of rock material
- Rock quality designation (RQD)
- Spacing of discontinuities
- · Condition of discontinuities.
- Groundwater conditions
- Orientation of discontinuities

# TYPE OF ROCK AND CS

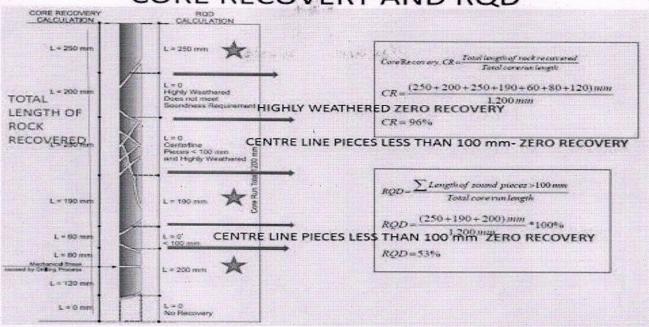
Uniaxial Compressive Strength measure of a materia the uniaxial compression the maximum axial com a right-cylindrical samp	I's strength. ve strength (UCS) is appressive stress that	Ranges for some Common Rock Material
Term withstand before failing	Kg/cm <sup>2</sup>	Schist, Silt stone
Very Weak- VW Weak- W Medium Strong-MS Strong- S Very Strong- VS	< 70 70-200 200-700 700-1400 > 1400	VW-W, Sand Stone, Lime stone –VW-M,Granite, Basalt, Gneiss, Quartzite, Marble –MS-VS

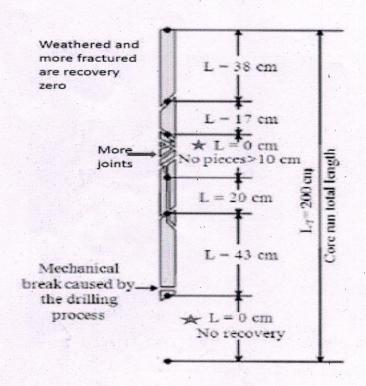
ROCK QUALITY DESIGNATION (RQD)



CORE RECOVERY AND RQD

**英国的美国国际的特别**。





$$RQD = \frac{38+17+0+20+43+0}{200} \times 100 (96)$$

RQD (%	Geotechnical quality
<25	Very poor
25-50	Poor
50-75	Fair
75-90	Good
90-100	Excellent

## Rock Sampling (Coring)

### Core recovery parameters

- So Rock Quality Designation (RQD) is the percentage of rock cores that have length ≥ 10 cm over the total drill length (core run).
- RQD may indicate the degree of jointing or fracture in a rock mass. e.g. High-quality rock has an RQD of more than 75%.
- RQD is used in rock mass classification systems and usually used in estimating support of rock tunnels.

RQD	Rock Mass Quality
< 25	Very poor
25 - 50	Poor
50 - 75	Fair
75 – 90	Good
99 - 100	Excellent

CE 483 - Fourtation Engineering - 2. Site investigation

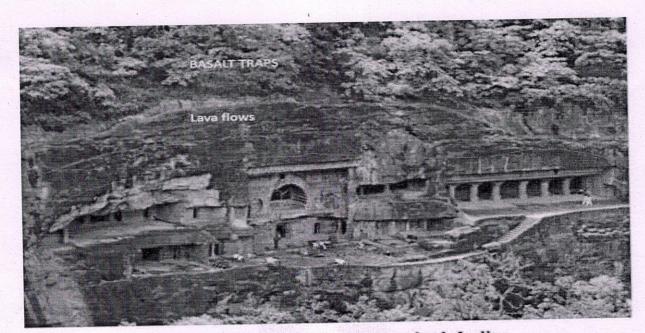


Figure 5: Ajanta cave, Aurangabad, India.

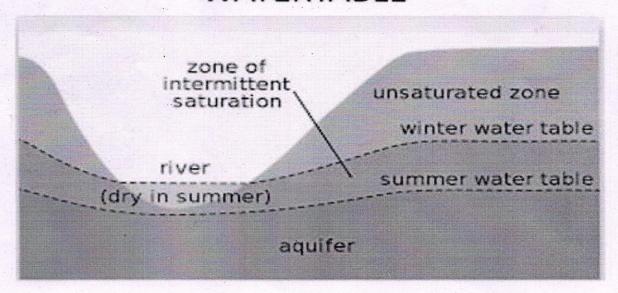
43

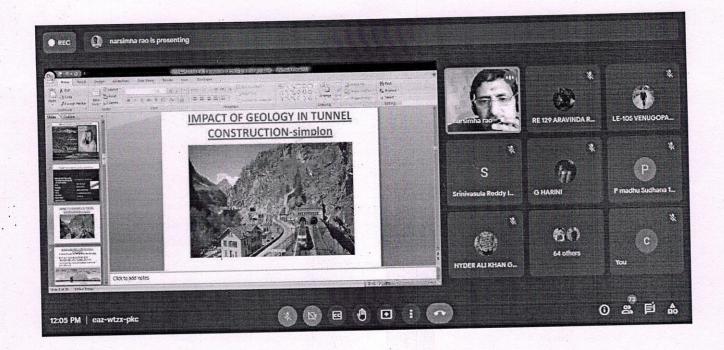
**建筑是设计是中华产品** 

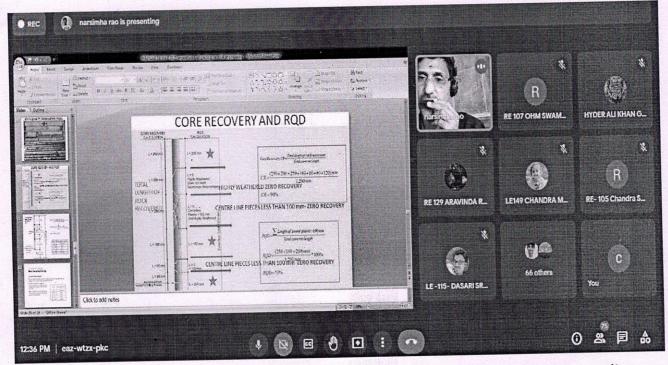
Geological potentials	Suitable condition for construction ROCK TYPE, STRUCT	Available resources of groundwaters	Available resources of mineral raw materials	Phenomena useful in health service, tourism and recreation	Environmental geologic condition of the territory
Geological barriers	Landslides Earth flows Avalanches	Pollution of groundwaters	Subsidence and sagging of the surface	Sheet erosion Wash out erosion	

The best way how to express environmental-geologic conditions of a territory is to compile a map. In Slovakia, there are geoenvironmental conditions usually depicted in maps of geofactors of the environment. The maps consist of several map sheets covering practically environmental aspects of all branches of geology mainly engineering geology, hydrogeology, geochemistry, economic geology, geophysics and pedology. Regarding the great amount of the maps, as well as the high degree of specialisation of some of them, a simplify comprehensive Map of significant geofactors is compiled for purposes of land-use planning and environmental protection. This map contains only some geofactors (taken over from the

## WATERTABLE







Students were conveying regards to the Department of Civil Engineering in online

### HoD's words at end of the Event:

At the end of the webinar, Dr. N. Amaranath Reddy, HoD, Dept. of Civil Engineering, KSRMCE expressed his regard to the speakers for sharing his knowledge with the students. HoD whished the speakers to get a better position in future and also asked the speakers to give more Presentations to students of KSRMCE.

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\* 10 %

### Vote of thanks:

Sri. Ch. Santosh Kumar (Coordinator of the event) delivered vote of thanks by thanking the students for their participation, faculty members for their active participation, (Especially for Sri. I Sreenivasula Reddy and HoD) for providing zoom online platform and Google Link to conduct such events and organization of KSRMCE for encouraging to conduct such events.

A total of 75 members containing students and faculty of Department of Civil Engineering, KSRMCE participated in this event

### Suggestion / Comments about the webinar:

- Nice Lecture
- Easily understand
- It is really good experience for attending the webinar.
- Thank you sir, for giving these kind of information. Please provide these kind of sessions more.
- We are interested more to participate in webinars
- · It's very useful to us
- Thanks for helping all to understand the subject in easy mode
- It was very helpful to us thank you so much your valuable lecture sir.
- We people from 3rd year should briefly understand the topic covered in this webinar,
- Very good teaching
- It's is very useful to us they explained a well on this really it is very interested and that more ever it is very useful to us for second year ,third year and Final year students.

- Tq so much sir conducting this webinar.
- Waiting for more webinars like this
- Thank you sir for conducting
- It is very useful for use
- Excellent sir
- Easily understanding sir
- Thanks Team
- Very useful lectures
- Good for students

Ch.Santosh Kumar Coordinator

Dr. N. Amaranath Reddy (HoD, Civil Engg.)



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### **Department of Civil Engineering**

Name of the Event: Webinar on "Importance of Geology"

### **List of Participants**

S.NO	Roll No.	Name of the student	Branch	Signature
1	20941A0155	N. V. Sai Kiran	Civil	Sai'
2	2094120140	na. Vameli	Civil	Vamli
3	2094140153	N. Naga Siva Sai	Civil	sou sive
4	20941A0158	Lokanth	Civil	Lollanth
5	209VIA0147	M. Rahal	Civil	Dar
6	2094190148	Misranal	Civil	Sycanote
7	ROUVIAOIVA	m. Amrudra Noss h	Civil	Harred A
8	209 Y 1 A0 149	M.Madhukrishna	Civil	wey.
9	20941A0143	M. Reddy sai	Civil	M Dainy-
10	2094110157	P. Silva Sai KUMOJ	Civil	Phra for know
11	20941A0150	N. paleem	Civil	MRSCIONIS
12	2094190138	m. Swesh	Civil	Buy on
13	209414-0145	M. Venkata Sai	Civil	M Sal
14	19941A0143	R. Hima Bindu	Civil	Q-
15	19941A0163	S. Zoverna Taynerm	Civil	200
16	19941 A0166	U.N. Yeshaswini	Civil	***
17	1994180101	- B. Duinayh	Civil	AR.
18	1994/10144	5. Sadamini	Civil	Sa
19	19941-0120		Civil	40
20	1994/A0122		Civil	and and
21	1994 (A0146	5. Mahammad	Civil	As
22	1994/A0147		Civil	S-
23	19941A0127		Civil	2a
24	1994110006		Civil	- for
25	19941A0108		Civil	AR
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30	1994 1-015		Civil	KOD
31	1994100145		Civil	Peq
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33	1994/170172	y. branchinii	Civil	Preu.
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35	2094170	M. Lyell	Civil	Send,
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37	209 4 100 142	M. grewitus	Civil	Delose
38	2094110149.		Civil	Lelyslin

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39	20945AUG C. DERPCIN	Civil	Soloware
40	2094rA0173 & sayad bayla	Civil	Celon
41	209×100181 3. James	Civil	SAL
42	219 × 5A0131 K. St. Kanua	Civil	R-K
43	20911AO118 D. Attyw Sperom.	Civil	SA.
44	209/190105 B. Gury Suchithra	Civil	Supporter
45	1994120138 W.Maveen	Civil	Rul
46	DOGNITORY M. Vijum	Civil	victum.
47	20941A0129 K. Vishou vardhan	Civil	48
48	DOGULACIA D. AMORINA DA	Civil	D.A.
49	20941ADIUS M. Subbasayudi	Civil	Mona.
50	20945A0156 P. Asma	Civil	PARM
51	20945A0126 J. Venkata Sai Drascanna	Civil	J.V Cont
52	19941A0143 R. HPma RPndhu	Civil	Re bleus
53	19941A0143 R. HPMA RPAGHU 19941A0164 VADDE Chardrasekhar 20941A0146 Ko (vee Revath P	Civil	alundra
54	209VIA0126 Kosvee Revaths	Civil	Revathi.
55	209/1A0/06 B.D.Phosh Kumon	Civil	B. DPhpPh
56	20941A0104 A.VINKAra Subbamma	Civil	A.V. M
57	2094/A0175 S. pallays	Civil	Sipont
58	2094 BADIAB N. Cowianys	Civil	Como
59	209 ADILS C. STOVENT	Civil	Bene
60	2094 HOILS M. Najerdia Nack	Civil	M (Dender D)
61	20945 ADI12 C. Upandra	Civil	Upendoe
62	20941A0102 A. Tyoshika	Civil	AcTyoshika
63	2094/A0109 B. Stavan Lumay	Civil	12 Sousaileuan
64	2094/40158 Dioleanath	Civil	Dele R
65	20911A0128 K. Eswan sai	Civil	- Safa Sal
66	199VIA0172 Y. Braming	Civil	Boahers.
67	2014/A0126 K Sciralli	Civil	Sulo
68	20975A0133 K. Bhanu Prasad	Civil	K. Rhary
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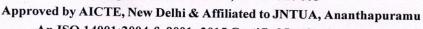
HoD

Head
Department of Civil Engineering
K.S.R.M. College of Engineering
(Autonomous)
KADAPA - 516 003. (A,P.)



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### Feedback Form

Your feedback is crucial to ensure we meet your educational needs. We would appreciate it if you could take a few minutes to share your opinions with us so we can serve you better.

: Webineon on Importance of Gredogy : Dv. S. Marasimha Raco Course Title Resource Person(s) Date(s) of the course

: 10-07-2021 : 92 R. Gorigadhor Reddy : 2097 140169 Name of the Student

Roll No.

S.	Item Description	RATIN	evant)	
No.		LOW	MODERATE	HIGH
1	The content was Clear & Understandable		/	
2	The program was well-paced within the allotted time			/
3	The instructor was a good communicator			/
4	The material was presented in an organized manner			
5	The instructor was knowledgeable about the topic			/
6	I would be interested in attending a follow-up, more			
	advanced workshop on this same subject/any other			/
7	Given the topic, was this workshop	Too Short	Right Length	Too Long
8	In your opinion, was this workshop	Introductory	Intermediate	Advanced
	Please Rate the following	LOW	MODERATE	HIGH
	a) Visuals			
	b) Acoustics			
	c) Meeting space/Venue			/
	d) Handouts			
	e) The Overall Program		/	1
9	What did you most appreciate/enjoy/think was best about the course? Any suggestions for improvement?	NO		

Please return this form to the instructor or organizer at the end of the course. Thank you.