## Patrons:

# Hon'ble Shri. Pravinkumar R. Pote

President, P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions, Amravati (M.S.)

# Hon'ble Shri Shreyas P. Pote

Welfare Trust's Group of Institutions, Amravati Vice-President, P. R. Pote (Patil) Education &

# Hon'ble Dr. S. A. Ladhake

Director, P. R. Pote (Patil) Education & Welfare Trust's Group of Educational Institutions, Amravati (M.S.)

## General Chair:

Dr. A. V. Kale, Principal, PRPCE&M, Amravati

# STTP Convener:

Dr. Mohammad Zuhair Dr.S.S.Saraf

# About the Institution

P. R. Pote (Patil) Education & Welfare Trust's name in higher Education in Maharashtra. The Group offers UG, PG and doctoral courses in Management and Technology. Various courses Group of Institutions, Amravati is a foremost Engineering, offered by the Group include BE, ME, Ph.D, Pharm., D. Pharm., B.Sc. (Agriculture) and CBSE Schooling. By the blessings of Shri Sant Gajanan Maharaj, we aim at developing a pursuit of knowledge in students, commitment MBA, MCA, Polytechnic, B. Arch, B.Ed., B. to economic, social & cultural uplifting of masses. The Institute named PRPCE&M highly believes in nurturing ethics and moral values in students. The Institute has dedicated teaching staff, digital classrooms, Wifi campus, finishing school, Placement cell, state-of-art auditorium, well equipped laboratories, and digital library jo with quality infrastructure. disciplines

College of Engineering & Management P. R. Pote (Patil) rincipal

Our constant Endeavour is to provide gamut of skilled engineers, top class managers and also opportunities for our students to make them good citizens.

# About the Department

skill & practical experience that enable them to The Department of Civil Engineering seeks to education. Developing students for intellectual become entrepreneur in their own innovative combine excellence & discipline in technical serve a variety of societal needs, nurtured students to become best professional as project manager, structural designer in industry or way. The department has a team of dynamic and experienced faculties, whose expertise work culture for our hard working students. The engineering stream, specially known for their excellent team coordination and very healthy software's and laboratory equipments. The Department of civil engineering believes in building carrier, enriching minds and provides department is well equipped with latest a remarkable experience that lasts a lifetime. spans the range of discipline

# Objectives of the STTP

The objective of this short term training programme is to focus on the forefront area of structural engineering i.e. structural health monitoring, retrofitting and rehabilitation of structures. The structures deteriorate over a time due to the impact of environmental conditions, excessive loading and improper maintenance. The smart material changes the perspective of structural health monitoring which uses sensors monitoring system. The buildings damaged due to earthquake may be of smaller or moderate magnitude can be Retrofitting may prove to be a good alternative reused if retrofitting methods can be used. Rehabilitation is used in somewhat difference rather completely demolishing the structure. with retrofitting.



Short Term Training Program (STTP) ISTE Approved

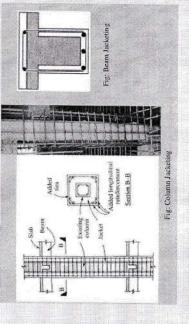


" STRUCTURAL HEALTH MONITORING & RETROFITTING REHABILITATION OF STRUCTURES" Ou

Date: 10th May to 15th May 2021

Organized by

Department of Civil Engineering



P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions College of Engineering & Management, Amravati (Recognized by AICTE, New Delhi & Affiliated to SGBAU, Amravati)

H.O., (Crivil Dept.)
P.R.Pote (Patil) College of Engg. & Management Amravati

# **Eminent Speaker**

- Dr.M.G.Kumthekar, GCOE Karad.
- Dr. P.S.Pajgade, PRMIT&R, Badnera. Dr, Ratnesh Kumar, VNIT, Nagpur.

  - Dr. S.N.Khante, GCOE, Amravati
- Dr. Mohammad Zuhair, PRPCE&M, Amravati
- Dr. S.S.Saraf, PRPCE&M, Amravati

# Topics to be covered

- Importance of Cracks in Building in Structural Health Monitoring
- Seismic Retrofitting of Building Structures
- Seismic Retrofitting A Case Study
- Structural Health Monitoring Using Technique
- Effect of elevated temperatures on properties of self compacting concrete
- Rehabilitation of Foundation A Geotechnical Approach

# Registration Process

participants. E-Certificate will be issued to participants who will be attending all the sessions including quiz and feedback. free The Registration is

https://forms.gle/z7oFkqYyx74qSdmx5 For Registration: Click Below Link

College of Engineering & Management P. R. Pote (Patil) Principal

# Mode of Conduction

# Online Using Zoom Apps

# Vision and Mission of the Institution

# Vision of the Institution

"To flourish as a centre of excellence for producing the skilled technocrats and committed human beings"

# Mission of the Institution

- To create conducive environment for teaching & learning.
- To impart quality education through demanding academic programs.
- To enhance career opportunities by exposure to Industries & recent technologies.
- ethics and human values for the To develop professionals with strong betterment of Society.

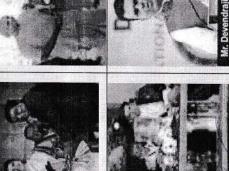
# For any queries please contact

**HOD Civil Engineering Department** Email:sachinsaraf2014@gmail.com Mob. No. 9822565805 Dr. S.S.Saraf,

Email:bhopalenp@gmail.com Mr. Nilesh P Bhopale, Mob. No.9823235374 Assistant Professor

# **Eminent Personality visited and guided**







P.R. Pote (Pasi) College of Engg. & Management H.O.y. (Civil Dept.) Amravati. !! Shree Gajanan Maharaj Prassana !!

#### P. R. Pote (Patil) Education & Welfare Trust's,

#### College of Engineering & Management,

Kathora Road, Amravati (M. S.)

(Recognized by AICTE, New Delhi & Affiliated to SGBAU, Amravati)

Ph. No. 0721 - 3292969, 3294384 Fax No. 0721- 2530342 E-mail: prpotepatilcollege@gmail.com

Date: 05/05/2021

#### **DEPARTMENT OF CIVIL ENGINEERING**

#### NOTICE

All the faculty members are here by informed that a AICTE-ISTE approved online one week STTP is being conducted on the Topic "Structural Health Monitoring & Retrofitting Rehabilitation of Structures", from 10thMay-15thMay 2021, organized by Department of Civil Engineering.

Copy To

- 1. All HODs
- 2. Notice Board
- 3. CSE
- 4. CIVIL
- 5. ELECTRICAL
- 6. EXTC
- 7. MECHANICAL
- 8. FIRST YEAR

H.O.D. (Civil Dept.) P.R. Pote (Patil) College of Engg. & Management Amravati.

P. R. Pote (Patil) College of Engineering & Management



P. R. Pote Patil Edu. & Welf. Trust's, Group of Institutions, College of Engineering & Management, Amravati

(Recognized by AICTE, New Delhi, Approved by Govt. of Maharastra & Affiliated to SGBAU, Amravati)

- Kathora Road, Amravati, Maharashtra, India
- Ph. No.: +91-721-2970110, Fax No.: +91-721-2530089, Email: prpotepatilcollege@gmail.com Web.: www.prpcem.org, www.prpatilcollege.org

#### Report of Title:

1	Title of Workshop	"Structural Health Monitoring & Retrofitting Rehabilitation of Structures"
2	Date of Workshop	10 <sup>th</sup> May-15 <sup>th</sup> May 2021
3	Venue of Workshop	Online on Zoom App 04.00 pm to 06.00 pm
4	Resource Person	Refer next page
5	Target of Students	200
6	Number of Students/Participants	155
7	Schedule of Program	Refer next page
8	Topics Covered	Refer next page
9	Mode Assessment	Question and answering
10	Outcome of workshop/FDP/Seminar /webinar	Participants gets acquainted with methods of Structural Health Monitoring & Retrofitting Rehabilitation of Structures

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Sr.No.	TOPIC	Date	Name of Resource Person	Time
1	Importance of Building Cracks in Structural Health Monitoring	10/05/2021 Monday (Day- 01)	Dr. M. B. Kumthekar, Professor & HOD (Civil), GCoE. Karad	4.00 PM to 6.00 PM
2	Seismic Retrofitting – A Case Study	11/05/2021 Tuesday (Day- 02)	Dr. Ratnesh Kumar, Associate Professor, VNIT, Nagpur	4.00 PM to 6.00 PM
3	Structural Health Monitoring using EMI Technique	12/05/2021 Wednesday (Day-03)	Dr. S. N.Khante Associate Professor, Gcoe. Amravati	4.00 PM to 6.00 PM
4	Seismic Retrofitting of Building Structures	13/05/2021 Thursday (Day- 04)	Dr. P. S. Pachgade Professor & HOD(Civil), PRMITR Badnera	4.00 PM to 6.00 PM
5	Rehabilitation of Foundation-A Geotechnical Approach	14/05/2021 Friday (Day-05)	Dr. S. S. Saraf Assistant Professor & HOD(Civil), PRPPCE&M Amravati	4.00 PM to 6.00 PM
6	Introduction to non destructive testing of civil structures	15/05/2021. Saturday (Day- 06)	Mr. Ravi Ranade, Managing Director Constuction Dignostic centre, Pvt. Ltd. Pune	4.00 PM to 6.00 PM

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Ph. No. 0721 - 3292969, 3294384 Fax No. 0721- 2530342 E-mail: prpotepatilcollege@gmail.com

07-05-2021

To,

Dr. M. B. Kumthekar,

Professor & HOD (Civil), GCoE. Karad

Respected Sir,

We are pleased to invite you as a guest speaker to the short term training programme on "Structural Health Monitoring & retrofitting, rehabilitation of structures" dated 10<sup>th</sup> May 2021 at 4.00 pm on ZOOM Platform. Your expertise and experience in this field of Non Destructive Testing will be an excellent addition to the STTP. Your guidance and presence itself is an honour for us and STTP Participants.

It's our kind request to accept our invitation.

P. R. Pote (Patil)

College of Engineering & Management

Thank you.

Regards,

HOD

Civil Engineering

P.R. Pote (Patil) College of Engg. & Management

Amravati.

!! Shree GajananMaharajPrassana !!

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#### College of Engineering & Management,

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Ph. No. 0721 - 3292969, 3294384 Fax No. 0721- 2530342 E-mail: prpotepatilcollege@gmail.com

07-05-2021

To,

Mr. Ravi Ranade,

Managing Director, Construction Diagnostic Centre, Pvt. Ltd.

Pune

Respected Sir.

We are pleased to invite you as a guest speaker to the short term training programme on "Structural Health Monitoring & retrofitting, rehabilitation of structures" dated 15 May 2021 at 4.00 pm on ZOOM Platform. Your expertise and experience in this field of Non Destructive Testing will be an excellent addition to the STTP. Your guidance and presence itself is an honour for us and STTP Participants.

It's our kind request to accept our invitation.

Thank you.

Regards,

Civil Engineering

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Principal P. R. Pote (Patil) College of Engineering & Management

#### A

#### Report On

#### "Structural Health Monitoring & Retrofitting, Rehabilitation of Structures"



#### Objective:

- The objective of this short term training programme is to focus on the forefront area of structural engineering i.e. structural health monitoring, retrofitting and rehabilitation of structures.
- To enhance the practical knowledge, about structural health.

#### Outcome:

- Participants gets acquainted with methods of Structural Health Monitoring & Retrofitting Rehabilitation of Structures
- Participants get acquainted with failures of structures.

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P. R. Pote (Patil) Education & Welfare Trust's College of Engineering & Management, Amravati

The Short-Term Training Program on "Structural Health Monitoring & Retrofitting Rehabilitation of Structures" had been successfully organized by Civil Department, of P.R.Pote (Patil) Education & Welfare Trust's College of Engineering & Management, Amravati from 10th May-15th May 2021.

- The world is progressing day by day, and we are getting more and more modernized every day which demands a lot of changes from some previous conventional techniques that were followed.
- Rapid changes in working life, society and information technology have increased the
  demands for experts in every field. Today the need for expert professionals is raising day
  by day who are expected to have good knowledge, excellent social and communication
  skills and who are able to utilize their skills in a positive way in life.
- As we all know today's scenario, we all are facing problems of COVID19 during these days,
   & we all are in lockdown in our home during this situation.
- As a result, The Department of Civil Engineering, P.R. Pote Patil College of Engineering & Management, Amravati has organized ISTE approved online STTP on "Structural Health Monitoring & Retrofitting Rehabilitation of Structures" during lockdown period dated 10<sup>th</sup> to 15<sup>th</sup> May 2021 to enhance the practical knowledge, to collect the knowledge about structural health, collect the large amount information at home itself which is very beneficial.
- The objective of this short term training programme is to focus on the forefront area of structural engineering i.e. structural health monitoring, retrofitting and rehabilitation of structures.
- Use of smart material changes the perspective of structural health monitoring which uses sensors monitoring system. The buildings damaged due to earthquake may be of smaller or moderate magnitude can be reused if retrofitting methods can be used.

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### P. R. Pote (Patil) College of Engineering & Management, Amravati ISTE Sponsored

### Online STTP on "Structural Health Monitoring & Retrofitting Rehabilitation of Structures"

(From: 10/05/2021 to 15/05/2021)

Program Conduction Schedule

Sr.No.	TOPIC	Date	Name of Resource Person	Time	
<b>1</b>	Importance of Building Cracks in Structural Health Monitoring	10/05/2021 Monday (Day-01)	Dr. M. B. Kumthekar, Professor & HOD (Civil), GCoE. Karad	4.00 PM to 6.00 PM	
2	Seismic Retrofitting – A Case Study	11/05/2021 Tuesday (Day-02)	Dr. Ratnesh Kumar, Associate Professor, VNIT, Nagpur	4.00 PM to 6.00 PM	
3	Structural Health Monitoring using EMI Technique	12/05/2021 . Wednesday (Day-03)	Dr. S. N.Khante Associate Professor, Gcoe. Amravati	4.00 PM to 6.00 PM	
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5	Rehabilitation of Foundation-A Geotechnical Approach	14/05/2021 Friday (Day-05)	Dr. S. S. Saraf Assistant Professor & HOD(Civil), PRPPCE&M Amravati	4.00 PM to 6.00 PM	
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P. R. Pote (Patil) Education & Welfare Trust's College of Engineering & Management, Amravati

### P. R. Pote (Patil) College of Engineering & Management, Amravati ISTE Sponsored

Online STTP on "Structural Health Monitoring & Retrofitting Rehabilitation of Structures"

(From: 10/05/2021 To 15/05/2021)

#### Day Wise Links

#### Day 01 - Link

P. R. Pote Patil Group Amravati is inviting you to a scheduled Zoom meeting.

For: ISTE approved STTP on Structural Health Monitoring & Retrofitting Rehabilitation of Structures

Day 01: Resource Person

Dr. M. B. Kumthekar, Professor & HOD (Civil), GCoE, Karad.

Topic: Importance of Building Cracks in Structural Health Monitoring

Date: 10th May, 2021

Time: 4:00 PM

Join Zoom Meeting

https://us02web.zoom.us/j/87820375583?pwd=MTdlQlRUM1NSc1d0MjBMQlhxMzllZz09

Meeting ID: 878 2037 5583

Passcode: 760347

#### Day 02 - Link

P. R. Pote Patil Group Amravati is inviting you to a scheduled Zoom meeting.

For: ISTE approved STTP on Structural Health Monitoring & Retrofitting Rehabilitation of Structures

Day 02: Resource Person

Dr. Ratnesh Kumar, Associate Professor, VNIT, Nagpur.

Topic: Seismic Retrofitting-A Case Study

Date: 11th May, 2021

Time: 4:00 PM

Join Zoom Meeting

https://us02web.zoom.us/j/86073062472?pwd=R3Z2NFY2Z2dPRC9UVFAwdENLR2t4Zz09



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Meeting ID: 860 7306 2472

Passcode: 880910

#### Day 03 -Link

P. R. Pote Patil Group Amravati is inviting you to a scheduled Zoom meeting.

For: ISTE approved STTP on Structural Health Monitoring & Retrofitting Rehabilitation of Structures

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Day 03: Resource Person

Dr. S. N. Khante, Associate Professor, GCoE, Amravati.

Topic: Structural Health Monitoring Using EMI Technique

Date: 12th May, 2021

Time: 4:00 PM

Join Zoom Meeting:

https://us02web.zoom.us/j/82593260500?pwd=QnZ3UDY1VjkyZ1RiQ2xFS0lxd1pqZz09

Meeting ID: 825 9326 0500

Passcode: 904699

#### Day 04 - Link

P. R. Pote Patil Group Amravati is inviting you to a scheduled Zoom meeting.

For: ISTE approved STTP on Structural Health Monitoring & Retrofitting Rehabilitation of Structures

Day 04: Resource Person

Dr. P. S. Pajgade, Professor & HOD (Civil), PRMITR, Badnera.

**Topic: Retrofitting- Case Studies** 

Date: 13th May, 2021

Time: 4:00 PM

Join Zoom Meeting

https://us02web.zoom.us/j/85166999197?pwd=VzYrYjhWSDRvMTZXRIVhbk1QMnZXUT09

Meeting ID: 851 6699 9197

Passcode: 558250

PPD H. O. W. Vil Dene



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#### Day 5 - Link

P. R. Pote Patil Group Amravati is inviting you to a scheduled Zoom meeting.

For: ISTE approved STTP on Structural Health Monitoring & Retrofitting Rehabilitation of Structures

Day 05: Resource Person

Dr. S. S. Saraf, Assistant Professor & HOD (Civil), PRPCE&M, Amravati.

Topic: Rehabilitation of Foundation- A Geotechnical Approach

Date: 14th May, 2021

Time: 4:00 PM

Join Zoom Meeting

https://us02web.zoom.us/j/82479804318?pwd=SFNqNXRmdVp4V1U1UzA0dHdjRlJYQT09

Meeting ID: 824 7980 4318

Passcode: 449903

#### Day 6 - Link

P. R. Pote Patil Group Amravati is inviting you to a scheduled Zoom meeting.

For: ISTE approved STTP on Structural Health Monitoring & Retrofitting Rehabilitation of Structures

Day 06: Resource Person

Mr. Ravi Ranade, Managing Director, Construction Diagnostic Centre, Pvt. Ltd. Pune

**Topic: Introduction to Non Destructive Testing of Civil Structures** 

Date: 15th May, 2021

Time: 4:00 PM

Join Zoom Meeting

https://us02web.zoom.us/j/84529406837?pwd=KytJYlhNQVNvTUFjUXZJVFQxUEJWUT09

Meeting ID: 845 2940 6837

Passcode: 179055

H.O.D. (Civil Dept.)

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## P.R.Pote Patil College Of Engineering And Management, Amravati Online STTP on "Structural Health Monitoring & Reterofitting Rehabilitation of Structures"

#### Participants Fees Received Details For ISTE Certificate

SN	Name of Participant	College Name	ISTE Membershi p Number	Email Id	Contact Number
1	Mandar Madhukar Joshi	Pankaj Laddhad Institute Of Technology Buldana	LM126066	mandarjoshi1608 @gmail.com	9420563898
2	Neelam W. Chorey	Prmit&R, Badnera	LM 105159	chorey.neelam@ gmail.com	9405425120
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4	Avinash D.Jakate	Government Polytechnic Yavatmal	LM107337	avinash.jakate@ gmail.com	9975614560
5	Akshay Vijayrao Deshmukh	Mgm's Jawaharlal Nehru Engineering College Aurangabad	LM 128011	deshmukhakshay 70@gmail.com	7709774996
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11	Dr. Vishvanath N. Kanthe	Guru Gobind Singh College Of Engineering And Research Centre, Nashik	LM-70907	kanthevn@gmail .com	9822078923
12	Swapnil Arun Deshmukh	Pankaj Laddhad Institute Of Technology	LM126067	swapnilarun973 @gmail.com	9503699780



10<sup>th</sup>May -15<sup>th</sup>May 2021
P. R. Pote (Patil) Education & Welfare Trust's College of Engineering & Management, Amravati

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	i ·	¥		@gmail.com	
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15	Dr. Mohammed Nadeem Qureshi	Government Polytechnic Yavatmal	LM40924	nadeem.kureshi2 020@gmail.com	8668410411
16	Lilesh P. Sakharwade	21.1 TOTTI SURTED SURTED		9923255355	
17	Rafat Ali Vilayat Ali	Government Polytechnic Arvi	LM 107339	rafatali088@gma il.com	9422158228
18	Prof Vinod Appa Choudhari	MAEER's MIT College Of Railway Engineering & Research, Barshi	LM83488	vachoudhari19@ gmail.com	9921048610
19	Dr Dhananjay K Parbat	Government Polytechnic Bramhapuri	LM09763	parbatdk@gmail.com	9422126000
20	Surekha Shivajirao Patil	Rmdssoe	LM118280	ksurekh@gmail. com	9923341877
21	Ashish Ratanchand Kondekar	Sinhgad Institute Of Technology And Science Narhe Pune	LM 130288	ashish.kondekar. sits@sinhgad.ed u	9850170605
22	Mahesh Maganlal Makwana	Mit World Peace University	LM 103729	mahesh.makwan a@mitwpu.edu.i n	8087387816
23	Prof. Bhanudas G. Abhale	Sandip Polytechnic, Nashik	LM104384	abhayabhale05 @gmail.com	9423042624
24	Dr. Vijay V. Muthekar	MIT Academy Of Engineering, Alandi, Pune.	LM-103725	vijay.muthekar@ mitaoe.ac.in	9850391114
25	Jyoti Chhagan Bhong	Vpkbiet, Baramati	LM 210620	jyoti.bhong@vp kbiet.org	9146939217
26	B. T. Dolas	Government Polyyechnic, Yavatmal	LM8151	bhaskardolas@y ahoo.com	8275325477
27	Syed Sabihuddin	Prof Ram Meghe College Of Engineering And Management Badnera	LM103412	syed_sabihuddin @rediffmail.com	9823184968
28	Dr M V Mohod	Prmit&R, Badnera	LM85258	mvmohod@gmai	9975538284
29	Rajesh Tryambakrao Aghao	Government Polytechanics Aurangabad	LM20854	l.com rajesh18368@g mail.com	9326146501



OF STRUCTURES"

10<sup>th</sup>May -15<sup>th</sup>May 2021

P. R. Pote (Patil) Education & Welfare Trust's

College of Engineering & Management, Amravati

30	Dr Ajay Goyal	Chitkara University	LM111187	ajay.goyal@chit karauniversity.e du.in	
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32	Nilesh P Bhopale	P. R. Pote Patil College Of Engg And Management Amravati	LM 77005	bhopalenp@gm ail.com	9823235374
33	Anup K. Chitkeshwar	P. R. Pote Patil College Of Engineering And Management Amravati	Pote Patil College LM 77004 anupkchitkeshwa gineering And r@gmail.com		9021409523
34	Dr.Sachin S. Saraf	Dr.Sachin S. P. R. Pote Patil College LM 77006 sachinsaraf2014		9822565805	
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37	Suhas Vasantrao Pawar	P. R. Pote Patil College Of Engg And Management Amravati	LM124112	pawars86@gmail .com	9421318464
38	Dr. Mohammad Zuhair	P. R. Pote Patil College Of Engg And Management Amravati	LM77001	zuhairgcoe@gm ail.com	9823962311
39	Dr Padha G		rsbang@rediffm ail.com	9421685931	
40	Swapnil Arun Deshmukh	Pankaj Laddhad Institute Of Technology And Management Studies, Buldana	LM126067	swapnilarun973 @gmail.com	9503699780
41	Sanket Vasant Sabale	Jawaharlal Darda Institute Of Engineering And Technology, Yavatmal	LM 105150	sanketsabale123 @yahoo.com	9175725252
42	Anujkumar Pradip Domale	Mgm's Polytechnic , Aurangabad	LM 113967	anujdomale@gm ail.com	7588091381
43	Dr Shivaji M Dumne	Government Polytechnic, Awasari, Pune	lytechnic, Awasari, amail.com		9422873345
14	Dinesh W Gawatre	Sinhgad Academy Of Engineering, Pune-48	LM-81114	smdumne@gmai l.com	90759 69911
45	Harshwardha n P. Nistane	Prmit&R, Badnera	LM104515	harshwardhan.nist ane@gmail.com	9890905539



10th May -15th May 2021

P. R. Pote (Patil) Education & Welfare Trust's College of Engineering & Management, Amravati

#### **Program Details**

#### Day 1

#### Session I: Inaugural function

Inaugural function of the STTP was conducted on 10th May 2021 at 04.00 pm by the hands of Dr. S. A. Ladhake, Director, P. R. Pote (Patil) Education & Welfare Trust's Group of Educational Institutions, Amravati, Dr. A. V. Kale, Principal, PRPCE & M, Amravati. & Dr. Mohammad Zuhair, Vice-Principal, PRPCE & M, Amravati. All faculties were present on this occasion.

The ceremony started with a welcome of chief guest. Later chief guest officially inaugurated the program with keynote. STTP Convener Dr. Mohammad Zuhair, Vice-Principal, PRPCE & M, Amravati explained the necessity of arranging the STTP and its features.

#### Webinar 1: Importance of Cracks in Building in Structural Health Monitoring

This session was delivered by Dr.M.G.Kumthekar, HOD, Dept. of Civil engg. GCOE Karad. He explained the significance of cracks in building, principle couses of cracks in building. Also he states that 90% of cracks are harmless but though it damages the appearance of structure.

Dr. M G Kumthekar also explained the need of structural audit to check weather building is safe or not to reside, like we get checked up regularaly from Doctor to know whether we are fit enough or not.

#### Webinar 2 : Seismic Retrofitting - A Case Study

This session was conducted by Dr, Ratnesh Kumar, Asso. Professor, Dept. of Civil engg., VNIT, Nagpur. He explained Goals of retrofitting, various strategies of retrofitting to be adopted at different conditions. He also elaborated steps in Evaluation and Retrofitting.

#### Webinar 3 : Structural Health Monitoring Using EMI Technique

This session was conducted by Dr, S.N.Khante, Asso. Professor, Dept. of Civil engg., GCOE, Amravati. He explained the importance of structural Health Monitoring, He also explain a key aspect of EMI method i.e. the use of PZT patches as collocated sensors and actuators, to apply PZT as an actuator-sensor simultaneously, a PZT patch bonded to a structure is driven by a fixed alternating electric field. He also highlights the need of monitoring the infrastructures.

#### Webinar 4: Retrofitting - Case Studies

This session was conducted by Dr, P.S.Pajgade, HOD, Dept. of Civil engg., PRMIT&R, Badnera. He explained the various terms such as Repair, Restoration, Strengthening & retrofitting. He also covered the Methodology of Retrofitting along with the Analysis of the structures.

#### Webinar 5: Rehabilitation of Foundation - A Geotechnical Approach

Dr. S.S.Saraf, HOD, Dept. of Civil engg., PRPCE&M, Amravati, has Enlighten on Foundation & its requirements, Different courses of foundation failure.

He explained various Foundation Rehabilitation Techniques like concrete jacketing, Underpinning, push pier system, Mud jacking etc.

#### Webinar 6: Introduction to Non Destructive Testing of Civil Structures

This session was conducted by Mr. Ravi Ranade, Managing Director, Construction Diagnostic Centre, Pvt. Ltd. Pune. He explained Why the NDT is essential for the Life span of the Civil Engineering Structures. He also Enlighten the Various test under NDT & the properties of the Fresh /Hardened Concrete.

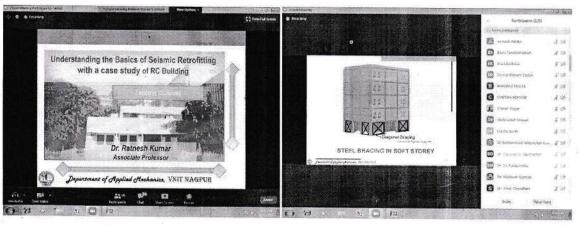


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#### Photographs of Online delivery

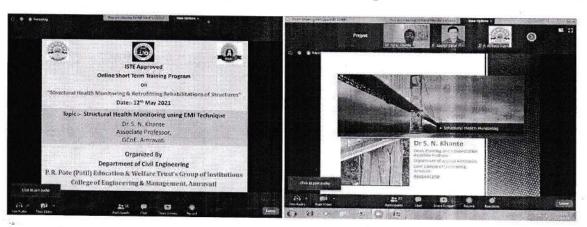


Inaguration of STTP & Participants in the STTP; Dr. M. B. Kumthekar addressing the session on Dt. 10.05.2021



Dr. Ratnesh Kumar, addressing the session ; Participants in the session of Dr. Ratnesh Kumar

on Dt. 11.05.2021



Dr. S. N. Khante addressing the session on Dt. 12.05.2021

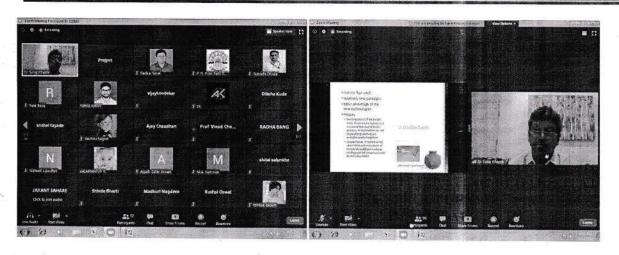
Principal P.R. Pote (Posil)

H.O.D. (Civil Dept.)

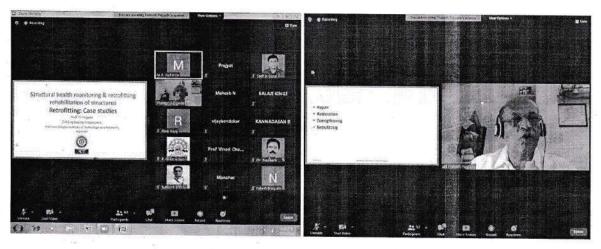


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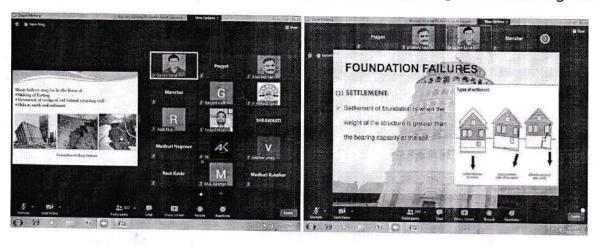


Participants in the session of Dr. S. N. Khante; Dr. S. N. Khante addressing the session on Dt. 12.05.2021



Participants in the session of Dr. P. S. Pachgade; Dr. P. S. Pachgade addressing the session

on Dt. 13.05.2021



Participants in the session of Dr. S. S. Saraf Dr. S.S. Saraf addressing the session on Dt. 14.05.2021



10th May -15th May 2021

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Mr. Ravi Ranade, addressing the session; Participants in the session of Mr. Ravi Ranade on Dt. 15.05.2021

At day 6, STTP commenced with Objective Test Examination, in that participants were given the Test paper and asked to submit it with their responses. Further participants were asked to give genuine feedback on the organized program and asked to give fair suggestions for further improvement.

Finally, the course was formally wrapped up with Valedictory ceremony on 15th May 2021, in the presence of participants and distinguished faculty members. The course content, its delivery and other facilities were rated adequate through online google sheet feedback of participants. In concluding part of the ceremony, vote-of-thanks was given by Prof. N P Bhopale, the Programme coordinator. The entire course ended with National Anthem.

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#### P. R. Pote (Patil) College of Engineering & Management, Amravati

ISTE Sponsored

Online STTP on "Structural Health Monitoring & Reterofitting Rehabilitation of Structures"

(From: 10/05/2021 To 15/05/2021)

#### MCQ Questions for the STTP (Quiz)

#### Q. 1) The factors Influencing Rebound Hammer Test is,

Type of Aggregate
Type of Cement
Surface and moisture condition of the concrete
All of the above

Q. 2) The deposition of water-soluble salts on the surface of masonry or concrete is called as

Spalling efflorescene crazing laitance

Q 3) A majority of the structural cracks occur as a result of the following conditions:

Design deficiency Settlement or heaving of soil Corrosion in reinforcement all of these

 ${\bf Q}$  4) The Rehabilitation of structures may be required due to several reasons. Choose the correct reason.

Tensile effects

Environmental effects

Compressive effects

None of the above

Q. 5) Which type of inspection is more intensive involing examination of structural elements?

Reverse inspection General inspection Major inspection Minor inspection

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#### Q. 6) It is the process of restoring structure in good condition that is damaged or deteriorate or broken

#### Repairs

Rehabilitate Tensioning None of the above

#### Q. 7) An ultrasonic pulse velocity test is an

Ex-situ, nondestructive test
In-situ, nondestructive test
Ex-situ, destructive test
In-situ, destructive test

### Q. 8) The strength and quality of concrete is assessed by measuring the \_\_\_ of an ultrasonic pulse

Length
Velocity
Weight
Surface Tension

#### Q. 9) The repair and rehabilitation of damaged or spalled concrete is done by removing the

#### Loose concrete

Collapsing Breakage Bonding

#### Q.10) Which among the following is not a type of Non-destructive testing?

Ultrasonic testing Visual testing Rebound Hammer Test **Creep Test** 

#### Q11) Thepachometer used to locate

#### Steel Reinforcement

Concrete Clear cover None of the above

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Q.12) The corrosion of reinforcement	due to extreme exposure is common f	or structure
located in		

Dry conditions
Costal zones
Regional zones
Hot condition

Q 13) In restoration of strength by adding external reinforced concrete the damages concrete is first repaired by,

#### Preload

Tensile load Compressive load Overload

Q. 14) In one week STTP the resource person Dr.S.N.Khante sir delivered lecture on

Seismic Retrofitting
Structural Health Monitoring using EMI Technique
Rehabilitation of Foundation-A Geotechnical Approch
Importance of building cracks

Q. 15) The process of restoring or increasing section of an existing member by enclosing it in new concrete is called

Overlay grouting guniting jacketing

Q. 16) Shotcrete is used in application of

Soil stabilization water proofing stabilization of rock slopes

Q. 17) A design review indicated that the reinforcements at the cracked locations were

Adequate
Inadequate
Collapse
none of the above







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#### Q. 18) On basis of width fine cracks have the size

< lmm

1-2mm

> 2mm

None

Q. 19) For testing mass concrete in roads, air-field pavements and hydraulic structures, the approximate impact value required for rebound hammer

10

20

30

40

Q. 20) The inheritability of concrete to heal cracks within itself is called

Carbonation
passivation
autogenous healing
none

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ISTE Approved Self Sponsored STTP On
"STRUCTURAL HEALTH MONITORING
& RETROFITTING REHABILITATION
OF STRUCTURES"
10<sup>th</sup> May -15<sup>th</sup> May 2021
P. R. Pote (Patil) Education & Welfare Trust's
College of Engineering & Management, Amravati

#### Participants Quiz Result & Feedback Details

Sr.No	Name of Participants	Quit/Soore	Result
		Om at 20	Vesimi
1 *	Mandar Madhukar Joshi	20	PASS
2	Neelam W. Chorey	18	PASS
3	Jayant J. Sahare	17	PASS
4	Avinash D.Jakate	16	PASS
5	Akshay Vijayrao Deshmukh	20	PASS
6 .	Amey Diliprao Deshmukh,	16	PASS
7	Sneha Suresh Bhende	18	PASS
8	Mr. Piyush Pandit Kadam	19	PASS
9	Dr. Vishvanath N. Kanthe	16	PASS
10	Swapnil Arun Deshmukh	** 20 ** 14 ***	PASS
11	Giridhari Chandrabansi	16	PASS
12	Shrikant Ramkrishna Bhuskade	20	PASS
13	Dr. Mohammed Nadeem Qureshi	19	PASS
14	Rafat Ali Vilayat Ali	16	PASS
15	Prof Vinod Appa Choudhari	16	PASS
16	Dr Dhananjay K Parbat	14	PASS
17	Surekha Shivajirao Patil	1 Deal 19 1	PASS
18	Ashish Ratanchand Kondekar	18 No. 18	PASS
19	Mahesh Maganlal Makwana	20	PASS
20	Prof. Bhanudas G. Abhale	19	PASS
21	Dr. Vijay V. Muthekar	20	PASS
22	Jyoti Chhagan Bhong	18	PASS
23	B. T. Dolas	18	PASS
24	Syed Sabihuddin	16	PASS
25	Dr M V Mohod	20	PASS
26	Rajesh Tryambakrao Aghao	A Mary 14 mary party	PASS
27	Anup K. Chitkeshwar	16	PASS
28	Prof Vinod Appa Choudhari	* M. 18	PASS
29	Mohd Abdul Rehman	14	PASS
30	Dr. Radha Sushil Bang	16	PASS
<b>多31</b> 图	Swapnil Arun Deshmukh	14 14 1	PASS
32	Dr Shivaji M Dumne	20	PASS
33	Harshwardhan P. Nistane	19	PASS

Signature of HoD.

P.R. Pore (Pari), College of Engo, & Nianzgempris

IQAC In charge Go ordinator, IQAC



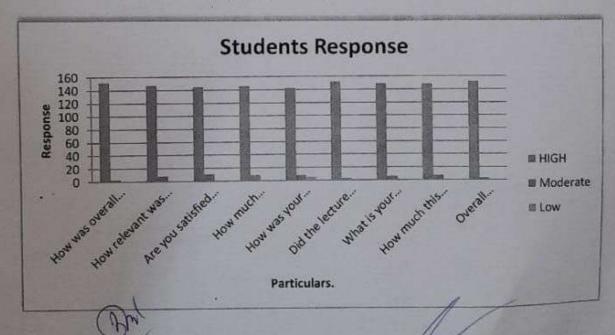
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#### P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati Department of Civil Engineering Academic Year 2020-2021

#### "Structural Health Monitoring & Retrofitting Rehabilitation of Structures"

	No. of Participants:	155				% Feedback
Sr. No	Particular	Excellent (5 marks)	Very Good (3 Marks)	Good (2 Marks)	Poor (1 Marks)	
1	How was overall organization of lecture?	152	3	0	0	99.23
2	How relevant was the content deliver by the speaker?	147	8	0	0	97.94
3	Are you satisfied with the time and venue?	144	1.1	0	0	97.16
4	How much interesting the session was for you?	146	9	0	0	97.68
5	How was your preparation about the topic before the guest lecture?	142	8	5	0	96.00
6	Did the lecture cover what you were expecting?	152	3	0	0	99.23
7	What is your opinion about the speaker?	149	6	0	0	98.45
8	How much this session was useful from the knowledge and information point of view?	148	7	0	0	98.19
9	Overall effectiveness of the lecture.	152	3	0	0	99.23

#### Feedback Analysis



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### **CERTIFICATE**

This is to certify that,

#### **Suhas Vasantrao Pawar**

has attended One Week Online Short-Term Training Programme on "STRUCTURAL HEALTH MONITORING & RETROFITTING, REHABILITATION OF STRUCTURE" approved by Indian Society for Technical Education (ISTE), New Delhi during 10/05/2021 to 15/05/2021 Organised by Department of Civil

Dr. Mohd. Zuhair / Dr. S. S. Saraf Programme Convenor Dr. A. V. Kale Principal

Dr. S. A. Ladakhe Director







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### CERTIFICATE

This is to certify that,

#### Suhas Vasantrao Pawar

has attended One Week Online Short-Term Training Programme on "STRUCTURAL HEALTH MONITORING & RETROFITTING, REHABILITATION OF STRUCTURE" approved by Indian Society for Technical Education (ISTE), New Delhi during 10/05/2021 to 15/05/2021 Organised by Department of Civil Engineering at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Dr. Mohd. Zuhair / Dr. S. S. Saraf **Programme Convenor** 

andle Dr. A. V. Kale Principal

Dr. S. A. Ladakhe Director





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### CERTIFICATE

This is to certify that,

Anup K. Chitkeshwar

has attended One Week Online Short-Term Training Programme on "STRUCTURAL HEALTH MONITORING & RETROFITTING, REHABILITATION OF STRUCTURE" approved by Indian Society for Technical Education (ISTE), New Delhi during 10/05/2021 to 15/05/2021 Organised by Department of Civil Engineering at P. R. Pote (Patil) College of Engineering & Management, Amravati.

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Dr. Mohd. Zuhair / Dr. S. S. Saraf

**Programme Convenor** 

amele

Dr. A. V. Kale

**Principal** 

Dr. S. A. Ladakhe Director



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Baba Amravati University, Amravati (M.S.)

### CERTIFICATE

This is to certify that, Prof.VaibhavMahalle\_\_of PRPCEM\_has attended a One Week Short-Term training programme on "STRUCTURAL HEALTH MONITORING & RETROFITTING, REHABILITATION OF STRUCTURE" approved by Indian Society for Technical Education (ISTE), New Delhi during 10/05/2021 to 15/05/2021 Organised by Department of Civil Engineering at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Certificate ID:\_\_\_\_

Dr. M.Zuhair /Dr.S.S.Saraf

**Programme Convenor** 

Dr.A.V.Kale
Principal

Dr.S.A.Ladakhe Director



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### CERTIFICATE

This is to certify that,

Manish Sudhakarrao Deshmukh

has attended One Week Online Short-Term Training Programme on "STRUCTURAL HEALTH MONITORING & RETROFITTING, REHABILITATION OF STRUCTURE" approved by Indian Society for Technical Education (ISTE), New Delhi during 10/05/2021 to 15/05/2021 Organised by Department of Civil Engineering at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Dr. Mohd. Zuhair / Dr. S. S. Saraf Programme Convenor Dr. A. V. Kale Principal

Dr. S. A. Ladakhe Director



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### CERTIFICATE

This is to certify that,

#### SUBODHKUMAR VITTHALRAO DHOKE

has attended One Week Online Short-Term Training Programme on "STRUCTURAL HEALTH MONITORING & RETROFITTING, REHABILITATION OF STRUCTURE" approved by Indian Society for Technical Education (ISTE), New Delhi during 10/05/2021 to 15/05/2021 Organised by Department of Civil Engineering at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Julie - Formand

Dr. Mohd. Zuhair / Dr. S. S. Saraf Programme Convenor Dr. A. V. Kale

Principal

Dr. S. A. Ladakhe Director