भारत सरकार
GOVERNMENT OF INDIA
भारतीय भूवैज्ञानिक सर्वेक्षण प्रशिक्षण संस्थान
GEOLOGICAL SURVEY OF INDIA TRAINING INSTITUTE
हैदराबाद / HYDERABAD
भारत सरकार

ई-प्रशिक्षण "आपदा प्रबंधन के लिए भू-सूचना विज्ञान के अनुप्रयोग पर 14वां पाठ्यक्रम"

इसरो के राष्ट्रीय प्राकृतिक संसाधन प्रबंधन प्रणाली (एनएनआरएमएस) कार्यक्रम के तहत

e-Training "14th Course on Application of Geo-informatics for Disaster Management"

Under the National Natural Resource Management System (NNRMS) program of ISRO

(29.09.2020 to 12.10.2020)

पाठ्यक्रम प्रतिवेदन / COURSE REPORT

भारतीय भूवैज्ञानिक सर्वेक्षण और भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो) के बीच समझौता ज्ञापन के भाग के रूप में भाभूस प्रशिक्षण संस्थान द्वारा सुदूर संवेदन एवं जीआईएस तकनीक का उपयोग करके खनिज अन्वेषण और आपदा प्रबंधन के क्षेत्र में राष्ट्रीय प्राकृतिक संसाधन प्रबंधन प्रणाली (एनएनआरएमएस) के तहत प्रशिक्षण कार्यक्रम आयोजित कर रहा है। इस पाठ्यक्रम का उद्देश्य आपदा प्रबंधन के लिए भू-सूचना विज्ञान के क्षेत्र में विभिन्न केंद्र / राज्य सरकार के संगठनों / शैक्षिक और अनुसंधान संस्थानों से भूवैज्ञानिकों के कौशल और विशेषज्ञता को विकसित करना था। अब तक जीएसआईटीआई ने आपदा प्रबंधन के लिए भू-सूचना विज्ञान के अनुप्रयोग पर सफलतापूर्वक 13 पाठ्यक्रम संचालित किए हैं और इस प्रशिक्षण कार्यक्रम से भूवैज्ञानिक समुदाय के 185 प्रतिभागियों को लाभान्वित किया गया है।

कोविड 19 की महामारी जैसी स्थिति में पीजीआरएस प्रभाग, जीएसआईटीआई ने ई-प्लेटफॉर्म के माध्यम से आपदा प्रबंधन के लिए भू-सूचना विज्ञान के आवेदन पर 14वें पाठ्यक्रम का संचालन करने का प्रस्ताव दिया, जिसे 30 प्रतिभागियों के लिए इसरो के प्राधिकरण द्वारा विधिवत स्वीकार और अनुमोदित किया गया।

इस पाठ्यक्रम का संचालन पीजीआरएस प्रभाग, जीएसआईटीआई, हैदराबाद में ई-प्लेटफॉर्म के माध्यम से किया गया। इस पाठ्यक्रम का उद्घाटन 29 सितंबर 2020 को श्री सीएच. वेंकटेश्वर राव, उप महानिदेशक एवं प्रमुख, मिशन V, जीएसआईटीआई द्वारा किया गया। इस अवसर पर श्री बिश्वजित गंगोपाध्याय, उप महानिदेशक, आरटीडी एवं एफ़टीसी, जीएसआईटीआई; डॉ. तारकनाथ पाल, निदेशक, तकनीकी समन्वय, जीएसआईटीआई, डॉ. निशा रानी, अधीक्षण भूवैज्ञानिक एवं पाठ्यक्रम समन्वयक, पीजीआरएस डिवीजन और श्री अनूप वी. एम., सीनियर जियोलॉजिस्ट, पीजीआरएस डिवीजन, जीएसआईटीआई भी उद्घाटन सत्र के दौरान उपस्थित रहें। पूरे भारत से प्राप्त 80 आवेदनों में से

प्रशिक्षण कार्यक्रम में भाग लेने के लिए तीस उम्मीदवारों का चयन किया गया। उनमें से 27 प्रतिभागी जीएसआई के एनएनआरएमएस प्रशिक्षण कार्यक्रम में विभिन्न संगठनों / विश्वविद्यालय / संस्थान का पहली बार प्रतिनिधित्व किए। 30 प्रतिभागियों में से 13 शोध छात्र, 10 संकाय सदस्य और 7 प्रोफेसनल्स थे। इस प्रशिक्षण ने आपदा प्रबंधन में भू-सूचना विज्ञान के विभिन्न अनुप्रयोगों से परिचय कराया। आपदा प्रबंधन से संबंधित विभिन्न परियोजनाओं के प्रबंधन के लिए सुदूर संवेदन एवं जीआईएस तकनीकों को समझाकर प्रशिक्षुओं को लाभान्वित किया गया।

As part of the MoU between Geological Survey of India and Indian Space Research Organisation (ISRO), GSI Training Institute has been conducting training programs under National Natural Resources Management System (NNRMS) in the fields of mineral exploration and disaster management using Remote Sensing and GIS techniques. The objective of this course was to develop the skill and expertise of Earth Scientists from different Central / State Government Organizations / Educational and Research Institutes in the field Geo-informatics for Disaster Management. So far, GSITI has successfully conducted thirteen courses on Application of Geo-informatics for Disaster Management and 185 participants from Geoscientific community have been benefited from this training programme.

In the prevailing situation of pandemic COVID19, PGRS Division, GSITI has proposed to conduct the 14th Course on Application of Geo-informatics for Disaster Management through e-platform, which was duly accepted and approved by the authority of ISRO for 30 participants.

The course was conducted through e-platform at PGRS Division, GSITI, Hyderabad. The course was inaugurated on 29th September 2020 by Shri. Ch. Venkateswara Rao Dy. D.G & Head, Mission-V, GSITI, in the noble presence of Shri. Biswajit Gangopadhyay Dy. D.G., RTD & FTC, GSITI.Dr. Taraknath Pal, Director, Technical Co-ordination, GSITI, Dr. Nisha Rani, Superintending Geologist & Course coordinator, PGRS Division and Shri Anoop V M., Sr. Geologist, PGRS Division, GSITI also interacted with participants during the inaugural session. Thirty candidates were selected for attending the training programme out of 80 applications received from all over India. Among them, 27 are representing from different (Organizations / University / Institutes) for first time in NNRMS training programme of GSI. Out of 30 participants, 13 were research scholars, 10 faculty members and 7 working professionals. This training introduced to various applications of Geo-informatics in Disaster Management. Trainees has been benefitted by understanding the techniques of Remote sensing and GIS to handle various projects related to Disaster Management

कार्यक्रम की पाठ्यक्रम सामग्री इस प्रकार है/The course content of the programme as follows

पाठ्यक्रम विषयसूची/Course content:

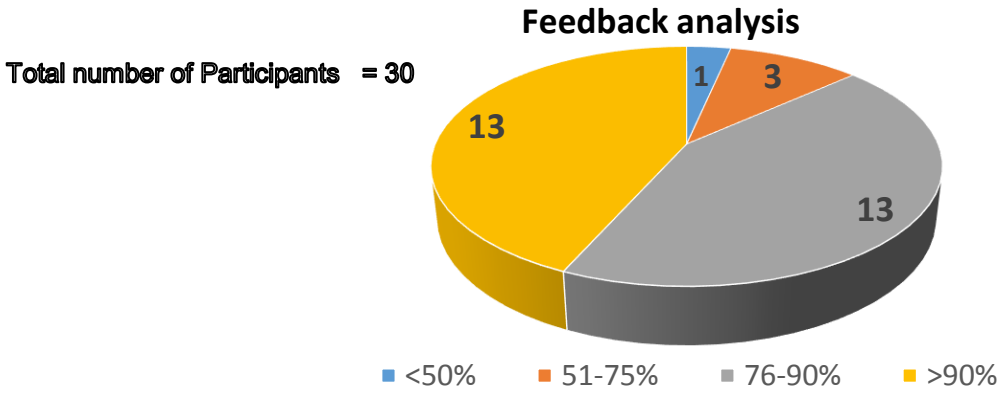
- Natural Disasters - causes, manifestation and analysis.
- Study of various environmental disasters like flood, landslide, earthquake etc.
- Remote sensing and digital image processing.
- Geomorphic landforms and their significance.
- Application of remote sensing in Disaster Management.
- Generation of Digital Elevation Model derivatives as an input for hazard assessment.
- Data integration in GIS environment for disaster management.

प्रतिपुष्टि/ Feedback:

प्रशिक्षुओं ने ई-प्रशिक्षण कार्यक्रम के विभिन्न पहलुओं के बारे में अपनी राय व्यक्त करते हुए अपनी प्रतिक्रिया प्रस्तुत की। उन्होंने इस महामारी की स्थिति में ई-प्लेटफॉर्म के माध्यम से इस प्रशिक्षण कार्यक्रम का संचालन करने के लिए इसरो के राष्ट्रीय प्राकृतिक संसाधन प्रबंधन प्रणाली (एनएनआरएमएस) कार्यक्रम के तहत पीजीआरएस प्रभाग, जीएसआईटीआई द्वारा की गई पहल की सराहना की। सभी प्रतिभागियों ने पाठ्यक्रम संरचना की अत्यधिक सराहना की; विषय को सैद्धांतिक कक्षाओं, विभिन्न व्यावहारिक अभ्यासों पर व्याख्यान और प्रदर्शनों को प्रस्तुत करने में संकाय के प्रयासों की भी प्रशंसा की। 13 प्रतिभागियों (43%) ने ई-प्रशिक्षण को अत्यधिक लाभकारी (**>90%)** और 13 **(43%)** प्रतिभागियों को अपने व्यावसायिक / शोध कार्यों के साथ-साथ अकादमिक शिक्षण में भी बहुत फायदेमंद (**76-90%)** के रूप में चिन्हित किया।

The trainees have submitted their feedback, expressing their opinion about various aspects of the e-training programme. They appreciated the initiative taken by the PGRS Division, GSITI under the National Natural Resource Management System (NNRMS) program of ISRO to conduct this training programme through e- platform in this pandemic situation. All participants highly appreciated the course structure; the topic covered in theory classes, the demonstration and the efforts of the faculty in delivering the lecture and demonstrations on various practical exercises. 13 participants (43 %) found the e- training to be highly beneficial (> 90%) and 13 (43 %) participants expressed as very beneficial (76-90%) for their professional /research work as well as in academic teaching.

Statistics on - "How this e-Training has benefitted the participant in his/her skill upgradation in the relevant subject ?



Course Coordinator: Dr. Nisha Rani. Superintending Geologist

Faculty:

CORE FACULTY
PGRS DIVISION
Dr. Nisha Rani, Superintending Geologist & Course Coordiantor Shri Anoop V. M, Sr. Geologist
CGMT DIVISION
Smt. Nidhi Mishra, Sr. Geologist Amrit Chandan Patra, Senior Geologist,
GUEST FACULTY
Shri. R. Balaji, Director, Earthquake Division, GSI, Hyderabad. Amar Bisram Ekka, Superintending Geologist, PGRS Division, GSI, Hyderabad
Dr. Tapas Ranjan Martha, Head, Geodynamics and Geohazards Division, NRSC, Hyderabad Dr. T.R. Kiranchand, Scientist-SF, Forestry and Ecology Group, NRSC, Hyderabad Dr. Aparna Shukla, Scientist E, Ministry of Earth Science, New Delhi. Dr. Mahesh Kumar Jat, Professor, MNIT, Jaipur

List of Participants:

SN	Name of the Participants	Designation	Organization /Institution
1	Shilpika Saikia	Research Scholar	Assam University, Silchar, Assam
2	Dr. Arnab Kundu	Faculty	Bankura University, Jamboni, West Bengal
3	Tridipa Biswas	Research Associate	CSIR-NEERI, New Delhi
4	Sumanta Kumar Giri	Project Assistant	CSIR-CIMFR, Keonjhar, Odisha

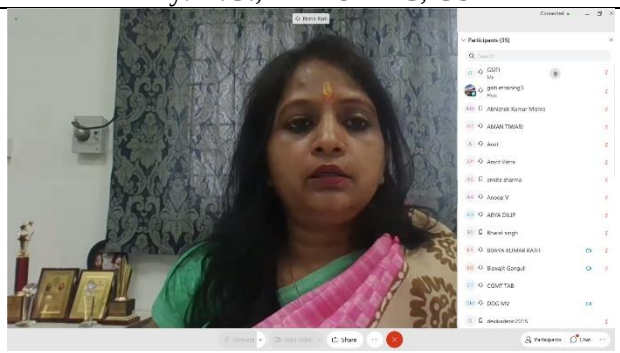
SN	Name of the Participants	Designation	Organization /Institution
5	Praveen Rawat	Lecturer	Government Science College, Jabalpur, MP
6	Rahul Negi	Project Geologist	DGM, Uttarakhand
7	Farha Zaman	Research Scholar	Dibrugarh University, Assam
8	Tamanna Dhahiya	Research Scholar	DRDO, Chandigarh, Punjab
9	Dr. Smruti Rekha Sahoo	Assistant Professor	Fakir Mohan University, Odisha
10	Nongmaithem Bragy Singh	Computer Assistant	Forest Department, Government of Manipur
11	Midhuna Vinayan	Research Scholar	Gandhigram Rural Institute, Dindigul, TN.
12	Dr. P L Keshava Kiran Kumar	Lecturer	Government College, Kadapa, Andhra Pradesh
13	Monashree Panigrahi	Assistant Professor	Government Women's College, Sambalpur, Odisha
14	Dr. Laxmi Versain	Assistant Professor	Government College, Dhaliara, Himachal Pradesh
15	Dinesh Kumar	Assistant Professor	Government M.G.M. PG College, Itarsi, MP
16	Ankita Sharma	Research Scholar	HNB Garhwal University, Dehradun, Uttarakhand
17	Dr. Droupti Yadav	Assistant Professor	IBSBT, CSJM University, Uttar Pradesh
18	Aman Tiwari	Research Scholar	IIT, Kanpur, Uttar Pradesh
19	Debika Deori	Research Scholar	K.S.K.V. Kachchh University, Bhuj, Gujarat
20	Mademshila Jamir	Research Scholar	Nagaland University, Kohima, Nagaland
21	Suryansh Mandloi	Research Scholar	National Institute of Hydrology, Bhopal, MP
22	Mohmad Ashraf Ganaie	Research Scholar	National Institute of Technology, Srinagar, J & K
23	Uday Sharma	Research Scholar	NCPOR, Goa
24	Abhishek Kumar Mishra	Manager	NHPC, Surangani, Himachal Pradesh
25	Dr. Gopal Sharma	Scientist	North Eastern Space Applications Centre, Meghalaya
26	Dr. Laldinpuia	Assistant Professor	Pachhunga University College, Aizawl, Mizoram
27	Bharat Singh	Research Scholar	Panjab University, Chandigarh, Punjab
28	Anoop V.	Conservation Biologist	Periyar Tiger Conservation Foundation, Thekkady, Kerala
29	Dr. Bijaya Kumar Rath	Consultant	SDC, Directorate General of Hydrocarbons, Bhubaneswar, Odisha
30	Arya Dilip	Lecturer	Sree Narayana College, Alappuzha, Kerala

Glimpses of Activities

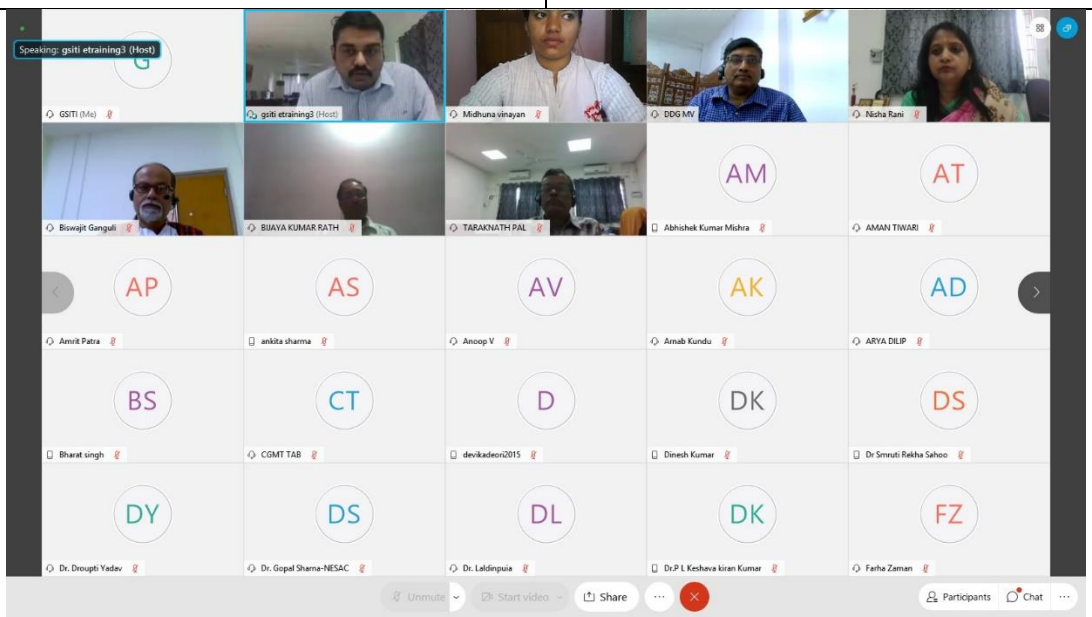
Inaugural address by Shri. Ch. Venkateswara Rao
Dy. D.G & Head, Mission-V, GSITI

Inaugural address by Shri. Biswajit Gangopadhyay
Dy. D.G., RTD & FTC, GSITI

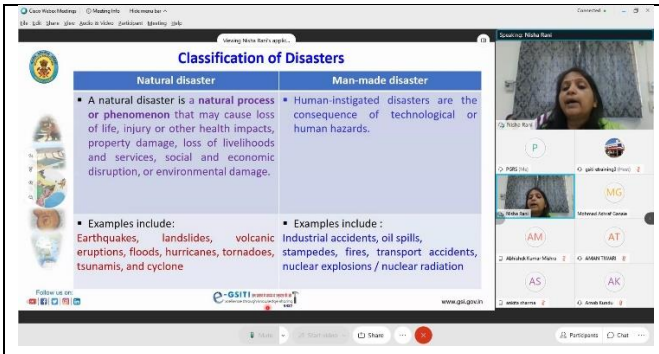
Dr. Taraknath Pal, Director (TC), GSITI interacting with participants in the inaugural function.



Dr. Nisha Rani, Superintending Geologist, PGRS Division, GSITI interacting with participants in the inaugural function.

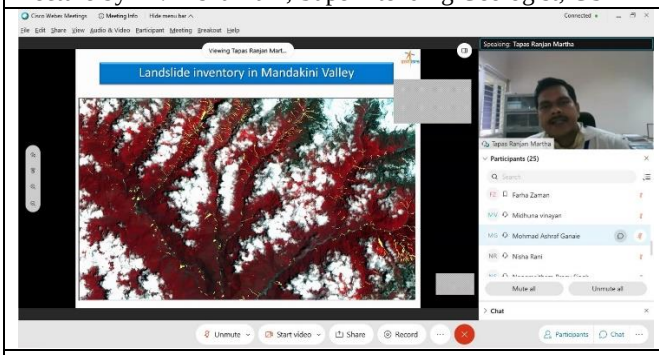


Dignitaries and participants interacting during the Inaugural session of the Course

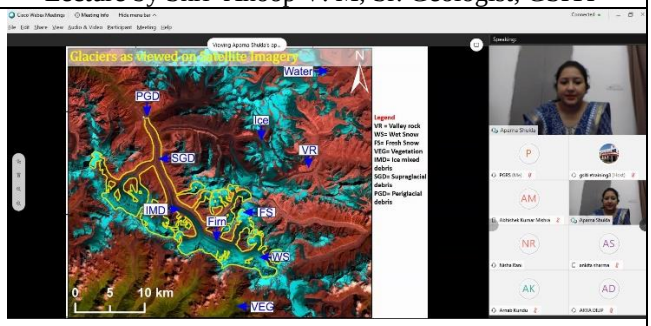


Lecture by Dr. Nisha Rani, Superintending Geologist, GSITI

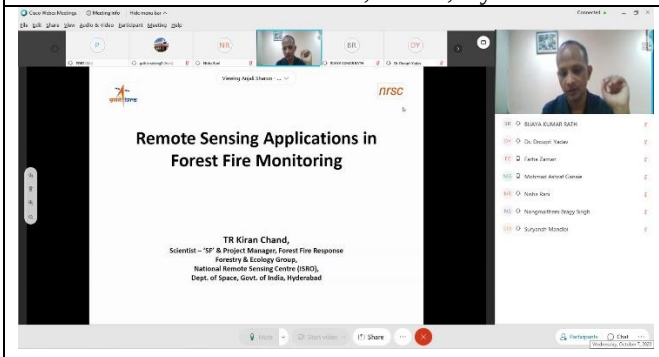
Lecture by Shri Anoop V. M, Sr. Geologist, GSITI



Lecture by Dr. Tapas Ranjan Martha, Head, Geodynamics and Geohazards Division, NRSC, Hyderabad

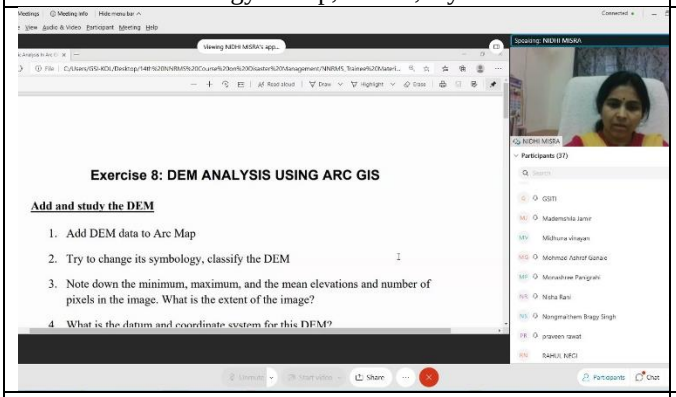


Lecture by Dr. Aparna Shukla, Scientist E, Ministry of Earth Science, New Delhi.

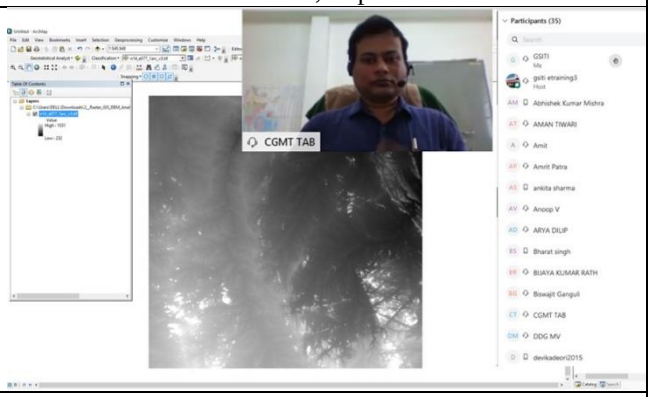


Lecture by Dr. T.R. Kiranchand, Scientist-SF, Forestry and Ecology Group, NRSC, Hyderabad

Lecture by Dr. Mahesh Kumar Jat, Professor, MNIT, Jaipur



Lecture by Smt. Nidhi Mishra, Sr. Geologist, GSITI

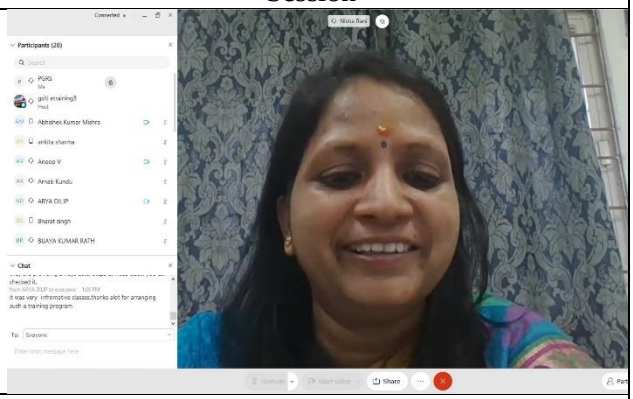


Lecture by Amrit Chandan Patra, Senior Geologist, GSITI

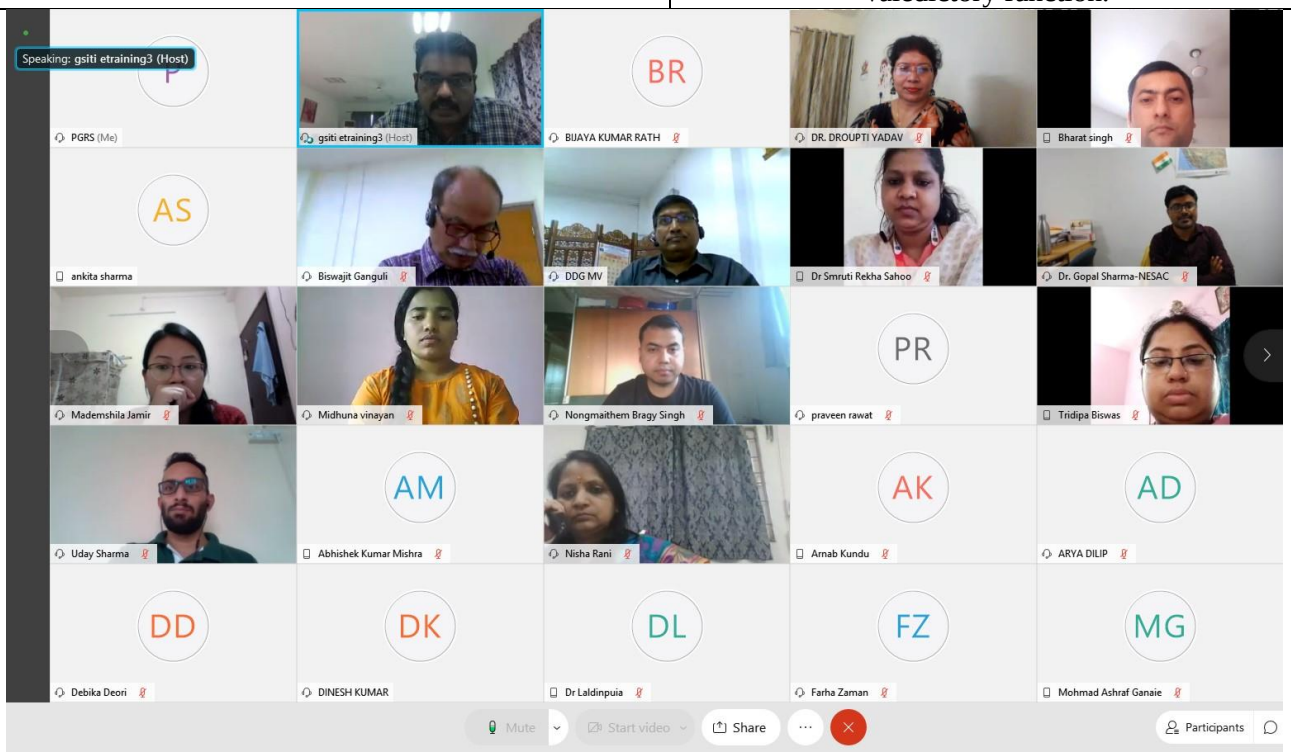
Address by Shri. Ch. Venkateswara Rao
Dy. D.G & Head, Mission-V, GSITI during valedictory Session

Address by Shri. Biswajit Gangopadhyay
Dy. D.G., RTD & FTC, GSITI during valedictory Session

Dr. Taraknath Pal, Director (TC), GSITI interacting with participants in the valedictory function.



Dr. Nisha Rani, Superintending Geologist, PGRS Division, GSITI interacting with participants in the valedictory function.



Dignitaries and participants interacting during the Valedictory session of the Course