

Indian Academy of Highway Engineers
(Ministry of Road Transport and Highways, Govt. of India)

F.No.IAHE/Trg/ Webinar/2020-21/5-JD

July 2, 2020

OFFICE MEMORANDUM

Subject: Online Training Programme on Planning, Design, Construction and Maintenance of Hill Roads from 20th to 31st July, 2020 on Cisco WebEx Meeting – request for nominations regd.

Indian Academy of Highway Engineers (IAHE) is organizing an online training programme on 'Planning, Design, Construction and Maintenance of Hill Roads, from 20th July to 31st July, 2020 on Cisco WebEx Meeting video conferencing application (website and app). Eminent guest faculty will deliver the lectures on the topics as per attached schedule and share their vast experiences with the participants online. Participants need to install WebEx App from Google Play Store or iOS Store or hyperlink <https://www.webex.co.in/> and signup to create an account free of cost. The website and app is user friendly but participants need to get acquainted themselves with the app before joining the training sessions online.

2. A hyperlink with Meeting ID and Password will be shared in advance with the participants for attending the lectures. A WhatsApp group of participants and faculty will be created temporarily for interaction and coordination. Participants will be able to join the lectures using the hyperlink with Meeting ID and Password. The nominated participants would be required to attend the lectures daily on time positively. For any clarification, they can contact Mr. D. Sarangi, Director, IAHE, Mob: 8130781101 or Mr. Dinesh Kumar Sharma, Joint Director, Mob. 9711939881 for assistance, if any.

3. MORTH, NHAI, NHIDCL, BRO, State PWDs, Central and State PSUs, etc. are requested to nominate Officers (AE/AEE/EE/SE level), maximum upto 10 nos., who are dealing with the subject of training to attend the programme. The nominations may please be sent as soon as possible to jd.iahe@gmail.com. Nominated participants need to fill up 'Nomination Form' and upload nomination letter at hyperlink <https://forms.gle/ytjhFNQJcrBYhDx49> online.

Yours faithfully,

(Dinesh Kumar Sharma)
Joint Director

Mob 9711939881 (WhatsApp)

Encl: as above.

Please note: All correspondence should be addressed to the Director by designation only

A-5, Institutional Area, Sector-62, Noida (UP) - 201309 (India)

कार्यालय प्रमुख अभियन्ता एवं विभागाध्यक्ष
लो० नि० वि० उत्तराखण्ड

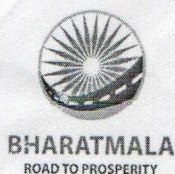
पु० प्र० सं०- ५५१ / १५ प्रशिक्षण दिनांक- ०३-७-२०२०

प्रतिलिपि निम्नलिखित को सूचनाएँ एवं इस
आशय से प्रेषित कि On-Line परीक्षण हेतु
अभियन्ताओं के नाम दि०-१५-०७-२०२० तक इस
कार्यालय को उपलब्ध करने का कष्ट करें,

- ① समस्त क्षेत्रीय मूल अभियन्ता, लो० नि० वि०,
- ② समस्त अधीक्षण अभियन्ता, लो० नि० वि०,
- ③ समस्त अधिशासी अभियन्ता, लो० नि० वि०,
- ④ अधि० अभि०, आई० टी० हेल, विभाग कार्यालय, लो० नि० वि०,
देहरादून को ई-मेल हेतु,



२५/७/२०
अधिशारी अभियन्ता
कार्यालय प्रमुख अभियन्ता एवं विभागाध्यक्ष
लोक निर्माण विभाग, उत्तराखण्ड
देहरादून



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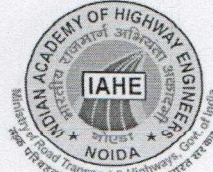
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Tel 0120-2405006-9, Fax 2400087 Email: jd.iahe@gmail.com, director.iahe@gmail.com, www.iahe.org.in



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ROAD TO PROSPERITY



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Online Training Programme on Planning, Design, Construction and Maintenance of Hill Roads from 20th to 31st July, 2020 on Cisco WebEx

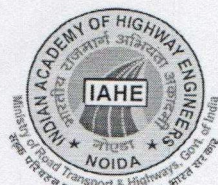
Time Period	Description of Topic	Faculty
Day-1: 20th July, 2020 (Monday)		
09:45-10:00	Introduction and Opening Shri D. Sarangi, Director, IAHE and Shri Dinesh Sharma, Joint Director, IAHE	
10:00 - 11:30 And 15:00 – 14:30	Distinctive Features of Hill Road to be considered in Planning, Design, Construction and Maintenance of Hill Roads <ul style="list-style-type: none"> ➤ Steep Gradients ➤ Sharp & Blind Curves ➤ Hair Pin Bends ➤ Super Elevation ➤ Vision Berms ➤ Obligatory Points ➤ Geological Formation ➤ River Morphology ➤ Drainage Characteristics ➤ Ecological Considerations ➤ Survey including pegging of final centre line 	Dr. Kishore Kumar, Former Chief Scientist, GTE Div, CRRI, 9811211512 kishornhrm@gmail.com
Day-2: 21st July, 2020 (Tuesday)		
10:00 -11:30 And 15:00 – 14:30	Geoenvironment, Geological, Geomorphological, Geohydrological, Geotechnical investigations for planning and design of hill roads (Widening projects and New roads)	Dr. R K Bhandari, Chairman, Forum for Disaster Mitigation, Indian National Academy of Engineering, and Member, National Advisory Committee to the NDMA. Mobile 9810345123 rajmee@yahoo.com
Day-3: 22nd July, 2020 (Wednesday)		
10:00 -11:30 And 15:00 – 14:30	Geometrics Design of Hill Roads <ul style="list-style-type: none"> ➤ Terrain Classification ➤ Capacity of Hill Road ➤ Elements of Roadway in Hill Roads- Carriageway, Shoulder, Drain, Parapet/Crash Barrier ➤ Camber ➤ Hill Road Cross section ➤ Design Speed ➤ Sight Distance ➤ Super Elevation ➤ Transition Curve ➤ Gradients, ➤ Vertical Curve, ➤ Grade Compensation at Curves 	Shri Arun Kumar Sharma, Former CE, HP PWD

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	<ul style="list-style-type: none"> ➤ Design of Hair- Pin Bend ➤ Passing Places ➤ Coordination between Horizontal & Vertical Alignment 	
Day-4: 23rd July, 2020 (Thursday)		
10:00 -11:30	Formation Works on Hill Roads <ul style="list-style-type: none"> ➤ Earthwork in Excavation ➤ Rock Cutting ➤ Drilling & Blasting ➤ Temporary Works- Side Drain, Cross Drain, Bridge, Revetment etc. ➤ Box Cut / Zigs 	Dr. SS Porwal, Former ADG, BRO
15:00 – 14:30	Special Considerations for Pavement Design in Hill Roads <ul style="list-style-type: none"> ➤ Choice of Surfacing for Heavy Rainfall/Snow Bound Areas ➤ Choice of Bitumen ➤ Effect of Frost Action (Heaving & Thawing) on Flexible & Rigid Pavement ➤ Frost Susceptibility of Soil 	
Day-5: 24th July, 2020 (Friday)		
10:00 -11:30 And 15:00 – 14:30	Slope Protection Measures in Hill Roads <ul style="list-style-type: none"> ➤ Classification of Slope Movement ➤ Causes of Slope Movements ➤ Stabilization of slopes- Excavation at Top of Slope, General Flattening of Slope, Benching of Slope, Complete Removal of Unstable Mass, Earth Fill at Toe Slope, Rock or Gravel Fill at Toe of Slope ➤ Selection of Structures for Protection-Debris Arrestors, Retaining Wall, Breast Wall, Toe Wall, Piles, benching, Filter beds, Tunneling, Easing of Slopes, Bitumen/ Asphalt mulching, Chutes and Sloping Aprons, Turfing ➤ Retaining Structures- Rock and Earth Fill Buttress at Toe of Slope, Cribbs or Gravity Retaining Wall, Pile Walls, Caisson Toe of Slope, Barriers at Toe anchored by Tie- Back ➤ Method of increase of Shear Strength of Soil- Cementation, Freezing, Electro-Osmosis, Compaction , Rock Bolting, Blasting at Toe 	Ms. Dola Roy Chowdhary Vice President - TMD M/s Z Tech, 7011686485, 9968281321 drc@ztech-india.com dolaroyc@yahoo.com dolaroyc@gmail.com
Day-6: 27th July, 2020 (Monday)		
10:00 -11:30 And 15:00 – 14:30	Drainage & Cross Drainage of Hill Roads. <ul style="list-style-type: none"> ➤ Hydrological Study of Rain & Snow Fall ➤ Computation of Run off ➤ Road Side Drain ➤ Catch-Water/Intercepting Drain / Chute ➤ Sub-surface Drainage ➤ Classification of Cross-Drainage Structures ➤ Choice of Cross-Drainage Structures ➤ Essential Design Data- Catchment, Cross-Section, HFL, Longitudinal Section, Velocity, Design Discharge, Linear 	Prof. Somendra Mazumder Mobile 99683 03598 somendrak64@gmail.com

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	<p>Water Way</p> <ul style="list-style-type: none"> ➤ Causeways and Submersible Bridges ➤ Culverts ➤ Stone Masonry Scupper ➤ High Level Bridges-RCC, PSC, Steel, Arch, Suspension Cable 	
Day-7: 28th July, 2020 (Tuesday)		
<p>10:00 – 11:30</p> <p>And</p> <p>15:00 – 16:30</p>	<p>Safety in Hill Roads</p> <ul style="list-style-type: none"> ➤ Correction of Deficiencies in Geometrics to the extent possible ➤ Adequate Cautionary & Informatory Signs ➤ Appropriate Pavement Markings ➤ Protection Structures for Traffic ➤ Delineators for Low Visibility ➤ Gate System of Traffic ➤ Traffic Management during Landslide, Repair, Adverse Weather Condition etc. 	<p>Mr. AP Bahadur, Former CE, MORTH</p>
Day-8: 29th July, 2020 (Wednesday)		
<p>10:00 – 11:30</p> <p>And</p> <p>15:00 – 16:30</p>	<p>Application of Geo-synthetics materials (Geotextile, Geogrid, Geo-web etc.) in Slope Protection and Sub-surface Drainage in Hill Roads</p>	<p>Ms. Minimol Korulla, Vice President, Maccaferri 9717568886 m.korulla@maccaferri.com</p>
Day-9: 30th July, 2020 (Thursday)		
<p>10:00 – 11:30</p> <p>And</p> <p>15:00 – 16:30</p>	<p>Prediction, Prevention and Control of Landslides on Hill Roads</p> <ul style="list-style-type: none"> ➤ What is Landslide ➤ Reasons for Landslide- Cloudburst, Earthquake, Rock Fall ➤ Actions in the aftermath of Landslide ➤ Landslide Data-Base and Mapping ➤ Landslide Monitoring System- Instrumentation ➤ Landslide Prediction & Warning System ➤ Measures to prevent Landslide 	<p>Dr. Kishore Kumar, Former Chief Scientist, GTE, CRRI</p>
Day-10: 31st July, 2020 (Friday)		
<p>10:00 – 11:30</p> <p>And</p> <p>15:00 – 16:30</p>	<p>Maintenance of Hill Roads</p> <ul style="list-style-type: none"> ➤ Importance of Maintenance in Hill Roads ➤ Type of Maintenance- Routine, Periodic, Special/Flood Damage/Emergent ➤ Maintenance of Pavement & Shoulder ➤ Maintenance of Drain/Cross Drainage Works ➤ Maintenance of Slopes and Slope Protection Structures ➤ Maintenance of Road Safety Items, Road Furniture ➤ Clearance of Landslide/Slip Debris ➤ Snow Clearance 	<p>Mr. UC Chamargore, SE, MORTH</p>
16:30-17:00	<p>Feedback and Concluding the Programme</p> <p>Shri D. Sarangi, Director, IAHE and Shri Dinesh Sharma, Joint Director, IAHE</p>	

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