



# IEI

# NEWS LETTER



Uttarakhand State Center

OCTOBER 2023 to  
DECEMBER 2023

A Century of Service to the Nation

## CHAIRMAN'S MESSAGE

As chairman of Uttarakhand State Centre, IEI, Dehradun, it is my privilege to address you on the occasion of publication of this issue of Newsletter. It is for the first time that I am sharing my thoughts with you all through this platform. This holds special significance as we come together to raise awareness about importance of our commitment towards quality of construction works being undertaken in Uttarakhand and other parts of country.



Er. Narendra K. Yadav

Leadership is not merely a responsibility, it is a commitment to ensuring the well-being of our engineering fraternity, protecting the environment and upholding ethical standards in all our operations. In today's rapidly evolving landscape, where the need for sustainable practices is more pressing than ever, by integrating quality principles into our organizational working mechanism, we not only mitigate risks and prevent incidents but also drive operational efficiency and long-term value creation. We have to achieve environmental, social and governance excellence in all engineering field. I would like to highlight the contribution of our IEI Civil Engineering Lab. in this area. The motto of the Lab. is knowledge on the field ground. It is the collective responsibility of all members to safeguard the well-being of every individual and ensure that everyone understand the importance of our IE (I) goals.

In year 2024, we plan to conduct workshops on concrete mix design, soil testing, quality assurance in construction of buildings, highways, ropeways, tunnels, safety hazards & fire fighting equipment, hydro-power projects, solar policies, mining, marine engineering and development of apps in IT etc. for the benefit of our members and the society. We have also planned for Executive Committee meetings away from our office building at academic institutions and project sites of technical nature. It will include visit to industries, major technical installations, large construction sites etc. I urge all members to join in our commitment to quality work by embracing a culture of prevention, vigilance and responsibility. Let us prioritize quality assurance in everything we do and work together to create a safer, healthier and more resilient world.

We are making all efforts for regular publication of our Newsletter Quarterly issues and making it more meaningful and relevant to keep it in tune with the changing times. I want to express my sincere thanks to all Executive Committee members for their continued support & co-operation in promoting UKSC interests in every field of engineering. I also put on record my appreciation from Dr. Prashant Aggarwal, Director of IEI Civil Engg. Lab for his untiring effort and commitment towards the expansion and growth of our lab. Together, we can make a meaningful impact & build a safer world for all of us. I wish you all a very Happy New Year 2024 and a safe, healthy and prosperous life for ever.

Jai Hind.

## FROM EDITOR'S DESK

The month of last December was one of the coldest in Uttarakhand. But an air of expectancy & enthusiasm was permeating the 'Engineers Bhawan' of Uttarakhand State Centre (UKSC) - IE(I) providing it warmth. With the election of a new Chairman and the Honorary Secretary and re-constitution of the Executive Committee, a new team of office-bearers had been installed. And it was get, set, go for the team from the Day Zero. Chairman set a very ambitious plan for the Centre and a road-map for the same. The building got a total face-lift with retro-fitting of the interiors. Frequent meetings are being held with internal and external experts to plan and execute many new events to expand the foot-print of the Centre. As such, many innovative plans are on the anvil and the Centre is buzzing with activities.

The UKSC Newsletter is also changing its contents and composition to stay in tune with the fresh whiff of wind blowing at the centre. We have started to include articles of technical nature to update & enrich the knowledge base of members. We expect more and more members to share their experiences with other members through these articles. In addition to the past and proposed events, we are trying to inform about the ideas at nascent stage on which the Centre is working and in which members can make a contribution. As suggested by Chairman, we aim to make this Newsletter a medium of communication with the members, especially those located in remote and far-flung areas. In view of it, we have decided to create a column in the newsletter where ideas, views, feed-back, suggestions etc. of the members will be published and the members may submit these through the e-mail: newsuksc@gmail.com. Last but not the least, we are making sincere efforts to regularise the frequency of the Newsletter and ensure its timely publication.

We look forward to your guidance and support in making our Centre and UKSC Newsletter a model one.

**Yogesh C. Verma**

## ESTABLISHING AND STRENGTHENING EXTERNAL LINKAGES



Meeting with Addl. Chief Secretary ( Finance), Govt. Of Uttarakhand regarding empanelling of IEI Civil Lab – UKSC for 3<sup>rd</sup> party inspection



Meeting with Secretary ( Peyjal) and Staff Officer to chief Secretary, Govt. Of Uttarakhand regarding empanelling of IEI Civil Lab – UKSC for 3<sup>rd</sup> party inspection.



Meeting with Director, NIELIT, Haridwar to start various courses at UKSC-NIELIT Center, Dehradun



Meeting with Addl. Director, Uttarakhand Disaster Recovery Project-AF, Dehradun



## EVENTS AND ACTIVITIES

### PROGRAMME ON QUALITY CONTROL AND ASSURANCE OF CIVIL ENGINEERING STRUCTURES

IEI – UKSC, Dehradun organized a two-day seminar and training programme on 10-11 November, 2023 at BRIDCUL headquarters Office, Dehradun. Er Deepak Yadav, HoD, Uttarakhand State PWD & MD BRIDCUL was the Chief Guest. After a brief Introduction by Er. Sanjeev Jain, CGM, BRIDCUL, Er. N. K. Yadav, Chairman, Uttarakhand State Centre, Dehradun welcomed all the members present during the programme. The programme was attended by all the officers & Field staff of BRIDCUL.



Lectures were delivered on various topics by distinguished speakers. Er. R.V.S. Chauhan briefed about Google Sheets / MS office software. Er. H. K. Upreti talked about Environmental Aspects in Highway Projects. Er. N.K. Yadav delivered a lecture on Steel Truss Bridge- case study of Shiva Dhanush Bridge. Dr. Prashant Aggarwal gave a lecture on overall quality mandate & quality in highway / different Roads Pavement. UKSC expressed thanks to BRIDCUL for giving opportunity to UKSC, Dehradun for this training program. It proved to be a good interactive workshop. Immediate Past Chairman of UKSC Er. Dharm Chandra also graced the occasion.

### WORKSHOP ON LABOUR LAWS, LABOUR CODES AND CANAL LAWS

On 23<sup>rd</sup> December 2023, one-day workshop on “Labour Laws, Labour Codes and Canal Laws” was organized in Institution of Engineers (India), UKSC Dehradun. Er. Narendra Singh, Past President was the Chief Guest of the programme. Er. S M Saxena, Chief Engineer (Rtd.), Uttarakhand Irrigation Deptt. and Er. A. K. Sachan, E. D. (Rtd.), ONGC were the Guests of Honour of the programme. Er N K Yadav, Chairman, UKSC, Dehradun, Er. Satish Kumar Chauhan, Hon. Secretary, UKSC, Dehradun, Prof. Kamal Jain, Chairman, RLC, Roorkee, Dr



Continued from page 3

Prashant Agarwal, Diector, IEI Civil Engineering Lab, Dr Amit Srivastva, Professor, Graphic Era (Deemed to be) University, more than 30 officers from BRIDCUL / PWD / DIT University and Executive Committee members of UKSC were present in the workshop. Er. N K Yadav, Chairman, UKSC welcomed all the participants. Er. Pradeep Sahariya was the main speaker of the programme. He explained that employment law is the body of laws, administrative rulings and precedents which address the legal rights of and restrictions on working people and their organizations. He told that labour laws can be considered under nine broad heads - individual employment, employment relationships, wages and remuneration, conditions of work, health, safety and welfare, social security, trade unions and industrial relations, the administration of labour laws and special provisions for particular occupational or other groups.

In this workshop all the attendees decided to hold another workshop on labour codes in near future. Prof. Kamal Jain Chairman, RLC, Roorkee appreciated the initiative towards such kind of workshop organized by UKSC, Dehradun and suggested for conducting workshop on Asset Management, /Crowd Management, Drone Training, Tunnelling work etc. The programme ended with a vote of thanks by the Hon. Secretary

### **ANNUAL GENERAL BODY MEETING**

The 21<sup>st</sup> Annual General Body Meeting ( AGM ) of The Institution of Engineers (India), Uttarakhand State Centre was held in the premises of UKSC , Dehradun on 29<sup>th</sup> October 2023 at 16:00 Hrs. Large number of UKSC corporate members were present in the meeting. Er. D C Arora , Chairman extended warm welcome to all the Executive Committee & Corporate members of UKSC. In the beginning of the AGM, Er. S.A. Khan Memorial lecture on “Rail Network in Uttarakhand State” by Er. Ajeet Yadav, CGM, RVNL was delivered.



The annual report of the UKSC was circulated among the members and presented by Er. Dharm Chandra, the then Chairman of UKSC. It was intimated that an international seminars besides number of national seminars/workshops/lecture/technical visits was organized during the financial year 2022-2023 . These programmes were attended by the corporate members in large numbers and quality of these programmes was well appreciated. The Executive Committee members met regularly to fulfil the objectives of the Institution. The House appreciated various activities undertaken by the Centre during the financial year. The audited report of the IE(I), UKSC, Dehradun for the year 2022-20223 was presented by Er. S C Chauhan, Honorary Secretary, IE(I), UKSC, Dehradun which was approved by the members present in the AGM. The meeting concluded with a vote of thanks to the Chief Guest & participants.

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## NEWS FROM LOCAL CENTRES

### ROORKEE LOCAL CENTRE

#### ANNUAL GENERAL MEETING

62<sup>nd</sup> Annual General Meeting of The Institution of Engineers (India), Roorkee Local Centre, was held on October 30, 2023. Prof. Ashish Pandey, Chairman of IEI, RLC introduced the incoming Chairman Prof. Kamal Jain, Professor (HAG), Department of Civil Engineering Department, IIT Roorkee and Er. Vineet Kumar Saini, Honorary Secretary of the Centre introduced Er. M.M. Dalbehera, Structural Engineer, Structural Engineering Group, CSIR-CBRI, Roorkee as incoming Honorary Secretary. Further, Prof. Kamal Jain, FIE and Er. M.M. Dalbehera, MIE were designated as Chairman and Honorary Secretary of the Centre respectively. Prof. Ashish Pandey, Immediate Past Chairman of the Centre, while welcoming the audience, highlighted the importance of The Institution of Engineers (India), Roorkee Local Centre and introduced Prof. Jai Krishna and his valuable services to this nation. Prof. Manish Shrikhande, Department of Earthquake Engg. Deptt., IIT Roorkee was the key note Speaker and delivered the 21<sup>st</sup> Prof. Jai Krishna Memorial Lecture on 'Improving Seismic Resilience'. Seismic sustainability refers to the capacity of built structures to withstand the impact of earthquakes by incorporating certain benchmarks during construction. The speaker explained the importance of seismic resilience in the development of infrastructure of the country and the most useful tools to determine seismic sustainability. While these are recently developed specialized components, buildings can also be made earthquake-resistant by merely complying with stipulated standards. Fellow engineers, researchers, academicians and students appreciated the lecture and a live interaction session followed by a Question & Answer session with the expert. Er. M.M. Dalbehera, Hon. Secretary of the Centre proposed a formal vote of thanks



A view of the dias



Prof. Manish Shrikhande delivering the lecture

#### FORTHCOMING EVENTS AND PROGRAMMES OF UKSC

Date	Programme	Topic
11-01-2024 - 12-01-2024	Training	Concrete Quality and Assurance
15-01-2024 - 21-01-2024	Workshop	Disaster Prevention and Management for Sustainable Development
01-02-2024 - 02-02-2024	Seminar	Construction practices in Himalayan Region for Sustainable Development
06-02-2024 - 08-02-2024	Workshop	Concrete Quality and Assurance
15-03-2024-18-03-2024	Workshop	DECORA (Design Expo of Construction, real Estate & Architecture)
19-03-2024 - 20-03-2024	Workshop	Highway Engineering
21-03-2024 - 22-03-2024	Workshop	Engineering Essential Skills
30-03-2014 - 31-03-2024	Seminar	Use of Hindi in Engineering & Technology
05-04-2024 - 06-04-2024	Seminar	Expanding Resilience in Climate Change
27-06-2024 – 29-06-2024	International Conference	Ready Mix

## CONSTITUTION OF UKSC EXECUTIVE COMMITTEE (EC) FOR 2023-25

### 1. Election of Chairman and Honorary Secretary

Election of Chairman and Honorary Secretary of the Institution of Engineers (India), Uttarakhand State Centre Dehradun was held in the meeting conducted at IEI – UKSC auditorium on 23<sup>rd</sup> July, 2023. Er Narendra Kumar Yadav was elected as Chairman and Er. S K Chauhan as Honorary Secretary for the session 2023-2024 & 2024-2025 as per the election procedure laid down by IEI Headquarters, Kolkata .

### 2. Election of EC Members

For the election of Executive committee members of Uttarakhand State Centre of The Institution of Engineers (India) for the session 2023-2024 & 2024-2025, a Board of Scrutinizers (BoS) was constituted in compliance to the rule 25 (A) of Bye Laws and Regulation of State / Local representatives of divisions for the Executive Committee and an order was issued as per the procedure laid down by IEI HQ Kolkata. The number of members elected for the Executive Committee in different disciplines is as follows:

Division	Number	Division	Number
Civil	3	Architecture	1
Electrical	2	Chemical	1
Mechanical	2	Agriculture	1
Electronics	2	Marine	1
Computer science	1	Production	1

No Nomination was received in the following disciplines :

- (i) Mining Engineering Division
- (ii) Textile Engineering Division
- (iii) Aerospace Engineering Division
- (iv) Materials and Metallurgy Engineering Division

### 3. Co-option of members

In addition to the elected members, the following corporate members of UKSC were also co-opted as Executive Committee members for the session 2023-2025 under different categories as enlisted below :

- A. 2 Special invitees under rule 3 (a) (viii) of Bye Laws and regulations of IEI.
- B. 4 members for the vacant posts under the provisions of paragraphs 10(a) of the Bye Laws and regulations for Uttarakhand State Centre
- C. 13 members under the provisions of paragraphs 3(d) of Bye Laws and regulations for Uttarakhand State Centre.

### 4. Constitution of various committees and cells

<b>Skill Development Cell</b> <b>Chair :</b> Er Dharm Chandra <b>Co -Chair :</b> Er S P Singh <b>Director :</b> Er Amit Kumar Singh	<b>Hydro and Renewal Energy &amp; Climate Cell</b> <b>Chair :</b> Er Jai Prakash Tomar <b>Co-Chair :</b> Er Rajendra Prashad Jamloki <b>Director :</b> Er Himanshu Awasthi
<b>Information Technology Cell</b> <b>Chair :</b> Er R V S Chauhan <b>Co-Chair :</b> Er. D C Gupta <b>Director :</b> Er Garima Sharma	<b>Fund Management &amp; CSR Committee</b> Er D C Arora Er S C Chauhan
<b>Finance Committee</b> Chairman, UKSC Honorary Secretary, UKSC Er D C Arora Er J P Tomar Er R V S Chauhan	<b>Publication &amp; News Letter Committee</b> Er R S Sharma Er Y C Verma Er Himanshu Awasthi
<b>Construction &amp; Maintenance Work</b> Chairman, UKSC Honorary Secretary, UKSC Dr Prashant Agarwal	

## UKSC EXECUTIVE COMMITTEE MEMBERS FOR THE 2023-25 SESSION

SL. NO.	NAME	MEMBERSHIP NO.	POSITION / DIVISION	CONTACT NO.	E-MAIL
1	Er. N. K Yadav	F-129099-8	Chairman, UKSC	9412608030	nkyadav.1983@gmail.com
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3	Er. Narendra Singh	F-014608-7	Past President, IE(I)	9412051590	nsinghfeindia@rediffmail.com
4	Er. S C Goyal	F-014762-8	Chairman DAMF	9319392745	subh1945@yahoo.com
5	Er. Dharam Chandra	F-118418-7	Past Chairman, UKSC	9627602023	dharamcarora@rediffmail.com
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21	Er. Pradeep Sahariya	F-1250759	Production	9410390390	sahariya@gmail.com
22	Er. H K Upreti	F-119242-2	Civil	9412992971	hku1810@gmail.com
23	Er. S M Saxena	F-112061-8	Civil	9412679818	ersmsaxena@gmail.com
24	Er. RVS Chauhan	F-117709-1	Director, IT Cell	9719516358	rvsrafi@yahoo.com
25	Er. J P Tomar	F-016778-5	Director, Green Energy Cell, UKSC	9412998310	jptomar47@gmail.com



26	Er. R P Jamloki	F-016672-5	Director, Skill Development Cell, UKSC	9412992739	rjamloki2001@gmail.com
27	Er. Hemashwari Sharma	F-1243620	Electronics & Commn.	9411114181	hema_89@yahoo.com
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29	Er. A K Tyagi	F-1117382		9837071245	aruntygi@gmail.com
30	Er Sanjeev Jain	M-1542049	Civil	8077646474	saaj2070@gmail.com
31	Er Garima Sharma	AM3003623	Computer Sc.	9958177157	garimavrm91@gmail.com
32	Er. Raghuvir Sharan Sharma	F-1295191	Mechanical	9412904456	raghuchhaya@gmail.com
33	Er Sanjay Kushwaha	F-1292435	Mechanical	9412904523	kushwahasanjay85@gmail.com
34	Er R K Tripathi	M-1499593	Mechanical	9897933466	rktripathi86@gmail.com
35	Er Amit Srivastava	F-1290742	Civil	9643015755	2002.lala@gmail.com
36	Dr Binay Kumar Singh	M-119474-1	Civil	9407244584	dr.bksingh@dituniversity.edu.in
37	Dr. Prashant Agarwal	F-128417-3	Civil	9027080401	pmnagr0521@gmail.com

## कायनात का नियम

इस कायनात के नियम का हक अदा कौन करेगा  
 गर सभी जिएंगे तो मृत्यु वरण कौन करेगा  
 जिंदगी में मिलना बिछुड़ना तो लगा रहता है  
 गर कदम ही ना उठे तो सफर कौन करेगा  
 सहेंगे खामोश रहकर तो हौसला बढ़ जाएगा  
 गर टूटेगी न चुप्पी तो सवाल कौन करेगा  
 कमियों का पुतला है हर इंसान अपनी रंगत में सभी  
 होंगे फरिश्ते तो गुनाह कौन करेगा  
 संजोकर बैठी है न जाने कितने अनुभव ये किताबें  
 गर पड़ेगा ही नहीं कोई तो कद्र कौन करेगा  
 गर्द जब आईने पर है तो तस्वीर धुंधली ही दिखेगी  
 गर झांकेगा न कोई तो फिर साफ कौन करेगा  
 महफिल में कौन हैं अपना, हे कौन पराया  
 गर सभी होंगे नशे में तो पता कौन करेगा  
 सजा जुर्मों की किसे कितनी होनी हे मुकर्रर  
 गर मुजरिम ही होंगे मुंसिफ तो तय कौन करेगा

**रघुवीर शरण शर्मा**

सदस्य, कार्यकारिणी समिति, यू०के०एस०सी०



# Construction 4.0: Disruptive Technologies Changing the Face of Construction Industry

Dr. Amit Srivastava  
Professor, Department of Civil Engineering  
Graphic Era (Deemed to be) University, Dehradun

## Abstract

Construction 4.0 is coined as Industry 4.0 after analyzing the various phases of revolution in the construction industry, from the use of crude tool (Industry 1.0 – Mechanization and steam power, weaving loom), to use of machines (Industry 2.0 – Electrical Energy, Mass Production and Assembly Line) and then software (Industry 3.0 – Computers and Electronics, Automation) to digitalization/ Digital Construction (Industry 4.0 – Cyber Physical System, IoT, Networks). Time Management and Project Cost are the two major concerns of the construction industry that not only hamper its image but also leaves the customers unsatisfied. Hence, technologies like Artificial Intelligence & Machine Learning, Robotics and Automation, 3D Printing etc. are changing the face of the conventional construction to digital construction.

## INTRODUCTION

The four component of the construction industry are Labor, Material, equipment and capital that work together for creating the built environment and helps society and nation for the development (Fig. 1) . In line with “Construction 4.0” concept, it requires technological intervention in these four sectors to meet the demand of smart equipment, smart materials, smart capital investment and smart workforce. A detailed discussion on Construction 4.0 can be obtained in Jazzar et al. (2021) (<https://doi.org/10.3389/fbuil.2021.671408>).

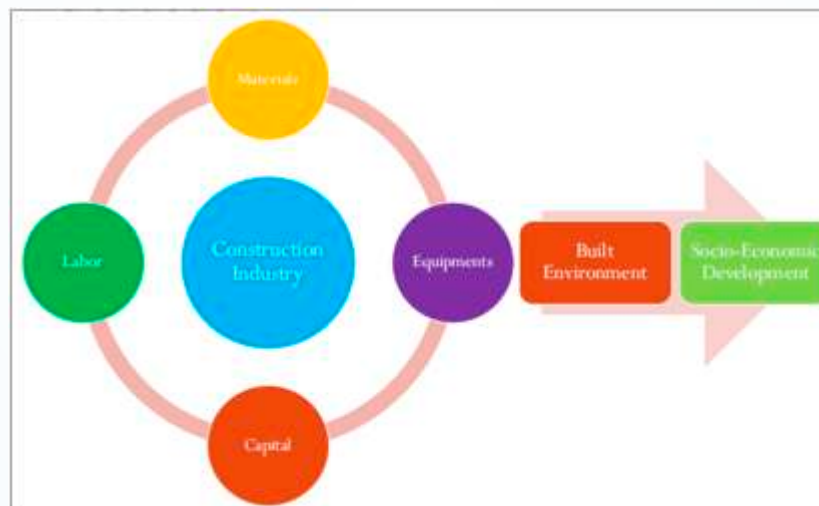


Figure 1 : Ingredients of Construction Industry

**Smart Materials:** Broadly classified as Stimuli-response materials and Bio-inspired functional materials. Few examples are Sensors and Actuators, Piezoelectric materials, self – healing materials, self-cleaning materials, etc and nanotechnology is playing a bigger role in the construction industry to prepare advanced and next generation (<https://www.engineeringcivil.com/nanotechnology-in-civil-engineering.html>).

**Smart Equipments:** As listed in Fig. 2, technologies like Robotics & Automation, Additive manufacturing & 3D Printing, Big data and predictive analysis, AI&ML, Augmented / Virtual / Mixed Reality, RFID, Wireless monitoring, Cloud and Real time collaboration, Building Information Modeling (BIM), pre-fabrication and modular construction are intervening at every phase such as planning, analysis, design, construction, cost estimation, maintenance as well as demolition activities.

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**Smart Capital Investment:** Manufacturing, Banking and Automobile sectors have already adopted to digital approach to save money by improving upon productivity, Intelligence, Accuracy, Efficiency and customer satisfaction.



Figure 2 : Disruptive Technologies in Construction Industry (Source World Economic Forum)

**Smart Work Force:** Keeping in view the fast changing face of the construction industry, there is an immediate need to change the teaching – learning pedagogy, curriculum and syllabus of the Civil Engineering undergraduate and post graduate program so that the next generation is future ready and adopt themselves in the changing as well as challenging work environment.

### ADVANTAGES

The positive sides of adapting to digitalization are viewed as Saving Time and Money, Improved Productivity and Image of the construction Industry, Lean Construction, Improving Safety and Reducing Risk at workplace, Better communication among construction workers, meeting sustainable Development Goals (SDGs) as per UNESCO <https://sdgs.un.org/goals>.

### CHALLENGES

Major challenges are listed as segmented nature and site based construction activities, Resistance to changes, Quality of information at the design stage, poor communication, procurement delays, theft in equipment movement and inventory, incompetent labor, Low investment in Research & Development and last but not least resistance to change.

### CONCLUSION

Performance of the construction industry is hampered due to production of low quality infrastructure. ICT can play a major role to improve upon the performance. There is an immediate need to create awareness about the concepts of Construction 4.0 among various stakeholders of the construction industry. Adoption of simulation tools and virtualization can make the construction site smart and at the same time there is a need to invest in R&D field for development of new indigenous technologies and innovative ideas to help the construction sector.

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# IEI CIVIL ENGINEERING LABORATORY

(NABL Accredited and ISO 9001:2015 Certified Laboratory)

## The Institution of Engineers (India)

UTTARAKHAND STATE CENTRE, DEHRADUN



### About US

The IEI Civil Engineering Laboratory was established in year 2015 to facilitate public and private agencies involved in civil engineering construction work for the required material testing work leading to specified quality assurance based on market demand and to be competitive in market. The Institution of Engineers (I) joined hands with Advanced Engineering & Consultancy Services, Dehradun which has highly qualified and experience professionals in the Quality Control & Quality Assurance field to run the laboratory.

A Technical committee has been formed by Institution of Engineers comprising of highly experienced engineers to monitor the technical aspects of the laboratory and advise to update its facilities based on advancement in testing facilities. The laboratory is accredited by NABL vide Certificate number TC-11527.

### Our Policy

The laboratory is committed to provide customer satisfaction through effective, efficient reliable and accurate test results by implementing the management system as per ISO/ IEC 17025:2017 and conforming to national and international standards to achieve customer satisfaction. Our lab conducts its operations strictly in compliance with the requirements of ISO/IEC 17025:2017 and meets customer requirements. The laboratory maintains a specified level of accuracy, competence, impartiality, technical capability and management ability for consistency in operations of laboratory through periodical testing, calibration, inspection and reporting services.

### Services Offered

- ❖ Coarse and Fine Aggregate Testing
- ❖ Compressive Strength of Hardened Concrete
- ❖ Physical Testing of Bitumen
- ❖ Tensile and Band Re-band test of steel bar
- ❖ Chemical Testing of Steel
- ❖ Field Density Test
- ❖ CBR Test
- ❖ Bearing Capacity, MDD and OMC of Soil in lab



Concrete Permeability Test Apparatus



Ultrasonic Pulse Velocity



CBR Testing Machine



UTM (Servo based)



Marshall Stability



## APPEAL

It has been observed that mobile number, e-mail, mailing address of many Corporate Members of IEI are not registered / updated with the Institution till date. Due to non-availability of these details, Institution is not able to provide full range of its services to the members and members also lose the opportunity to participate in the Online Elections / Activities of the Institution.

All the Corporate Members are requested to inform their acquaintances to provide / update their contact phone no. and e-mail ID along with membership number at the earliest to : datamemb@ieindia.org or uttarakhandsc@ieindia.org or mobile no. 9412056431.

To increase the strength of members in UKSC all members are requested to mobilise fellow engineers to be part of IE(I).

# “Each One, Bring One”

## *The Institution of Engineers (India)*

### **Engineers Bhawan**

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# IEI

## NEWS LETTER

### **Patron - in - Chief**

Narendra Singh, Past President  
The Institution of Engineers (India)

### **Patron**

Narendra Kumar Yadav  
Chairman UKSC

### **Editor**

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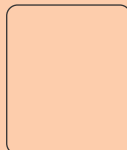
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