



## MESSAGE FROM THE PRESIDENT



Dear Friends,

Warm greetings from IAStructE.

I am very happy to present to you the first Newsletter of the year 2024. The association is regularly organising relevant technical activities. You may find details of such activities and publications in this newsletter and on our website. If you are not yet a member of IAStructE, kindly become a member to avail yourself of the many benefits of the association.

In this newsletter, information related to the Online refresher course on "Analysis, Design & Construction Aspects of Precast Structures", which is being held from 13 January 2024 up to 24 February 2024, is included. Article on monthly lecture by Prof Chandan Ghosh, CEO, Nishkam Technologies on Health Rating System for Infrastructures is included. Information on IIIT Student Chapter activities i.e., Guest lecture on "Earthquake Performed Assessment of Buildings: Non-Linear Static Analysis by Dr. Mitesh Surana, Assistant Professor, IIT Ropar and guest lecture on "Sensor-Based Structural Health Monitoring" by Dr. Nemkumar Banthia, Killam University Professor and Canada Research Chair at the University of British Columbia.

Please send your feedback on our activities and suggestions for further improvements.

Best regards,

Prof. R. Pradeep Kumar  
President-IAStructE

## FROM THE EDITOR'S DESK



Dear Readers,

This first edition of the new year brings the announcement of an important webinar on the historical construction of Ram Mandir along with other activities. This edition also highlights the achievement of one of our fellow member Mr. Alok Bhowmick organization honoured with "CEAI National Awards for Excellence in Engineering Consultancy Services-2023".

Request you all to follow us and disseminate the organisation activities on social media platforms.

Thanks and regards,

Prof. Visalakshi Talakokula

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## Events Organized:

### Online Refresher Course on “Analysis, Design & Construction Aspects of Precast Structures”

Online course on “Analysis, Design & Construction Aspects of Precast Structures” was launched on 13 January 2024 and will continue till 24 February 2024. The lectures are being organized on every Saturday, Dr. S. P. Anchuri, GC member, IAStructE is the Course Coordinator and Prof. S. Suriya Prakash, Professor, IIT Hyderabad is the Course Co-Coordinator. 175 delegates are participating in the course which is sponsored by Shree TMT and supported by PSP Projects Limited. Prof. R. Pradeep Kumar, President IAStructE gave welcome address during the inaugural session. Mr. V. N. Heggade, Vice-President, IAStructE (Western Region) and Prof. Mahesh Tandon, Past President, IAStructE were present as the panelists during the sessions.

During the three sessions the lectures were delivered by the following eminent speakers:

- ❖ Prof. Manu Santhanam, Professor, IIT Madras
- ❖ Mr. Amit Barde, Head, Precast Initiative, Larsen & Toubro
- ❖ Mr. Saurabh Purandare, Director, Innovela Building Solutions
- ❖ Mr. C. A. Prasad, Director, Metey Engineering & Consultancy Pvt. Ltd.
- ❖ Mr. Sanjeev Sharma, Melior Construction
- ❖ Mr. Shridhara C. N., Associate Director, PRECA Solutions India Pvt. Ltd.



Fig1 Glimpses of Eminent speakers from 3 sessions of Refresher Course

### Lecture on "Health Rating System for the Infrastructures"

An online lecture on "Health Rating System for the Infrastructures" was organized on January 25, 2024. It was delivered by Prof. Chandan Ghosh, CEO, Nishkam Technologies, India & Formerly Professor & Head, NIDM-MHA, Delhi. During the lecture, attendees gained valuable insights.

You tube Link: <https://www.youtube.com/live/Wc573DwZGho>

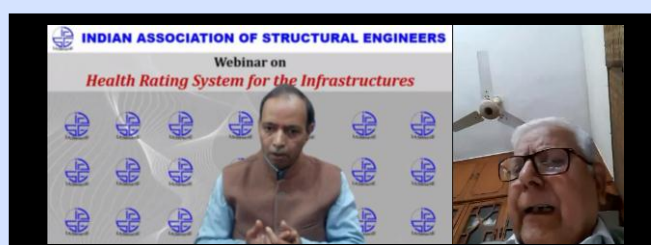


Fig.2 Glimpses from the online lecture by Prof. Chandan Ghosh

## IAStructE Student Chapters Activities:

### IAStructE – IIIT, Hyderabad Student Chapter Event:

**1. Title of the event:** Guest Lecture on “Earthquake Performed Assessment of Buildings: Non-Linear Static Analysis

**Speaker:** Dr. Mitesh Surana, Assistant Professor at IIT Ropar

**Date & Venue:** 25<sup>th</sup> January 2024 through online

**Proceedings of the event:** The IAStructE – IIIT Hyderabad student chapter of the Earthquake Engineering Research Centre organized an online Guest Lecture on 25th January 2024. The lecture was delivered by Dr. Mitesh Surana, Assistant Professor, Department of Civil Engineering, Indian Institute of Technology Ropar. The title of the talk was “Earthquake Performance Assessment of Buildings: Non-Linear Static Analysis”. More than 130 participants (from India and abroad), including PG and doctoral students, structural engineers, industry people, and faculty members, attended the lecture.

Dr. Surana provided a pivotal overview of Structural Analysis, explicitly focusing on the assumptions on the behaviour of structures or materials considering (a) Linear / Non-Linear Analysis; and (b) Elastic / In-Elastic Analysis. He delved into the primary concept of seismic analysis, focusing on the basic methods available for analyzing the responses of a structure when subjected to earthquake ground motion. Further, he explained the force-based seismic design, describing its design parameters and highlighting the structure’s behavior under earthquakes. During his presentation, he also summarized the main objective of seismic design and the intent of the code. The presentation involved a comprehensive valuation of non-linear static analysis annotating its capacity spectrum and capacity curve parameters. He also explained the estimation of seismic demand and earthquake performance assessment and highlighted their key features with related curves and results to provide the attendees with a clearer understanding of the topic and its practical applications. To conclude the presentation, Dr. Surana provided clear insights into the non-linear static analysis for the performance-based seismic design. The event was completed with an engaging and insightful discussion, with active participation from the attendees, which enriched the overall exploration of the topic and its significance in the field of earthquake engineering.

**You tube Link:** <https://youtu.be/UJIK3IA2s8M>

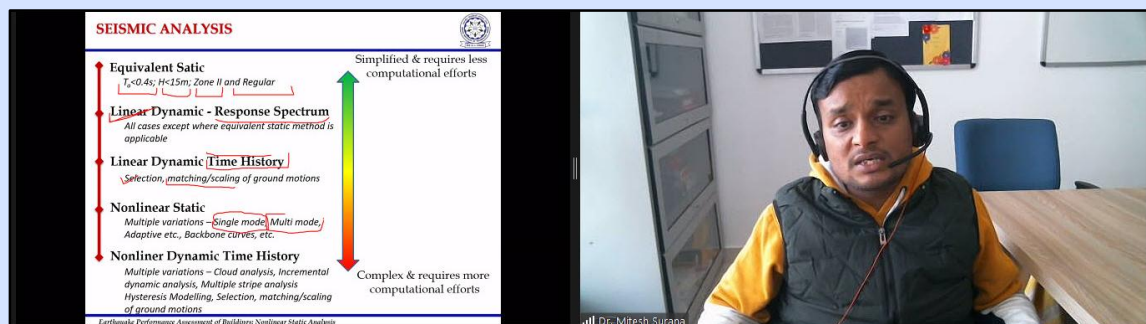


Fig. 3 Glimpses from the online lecture by Dr. Mitesh Surana

**2. Title of the event:** Guest Lecture on “Sensor-Based Structural Health Monitoring”

**Speaker:** Dr. Nemkumar Banthia, Killam University Professor and Canada Research Chair at the University of British Columbia



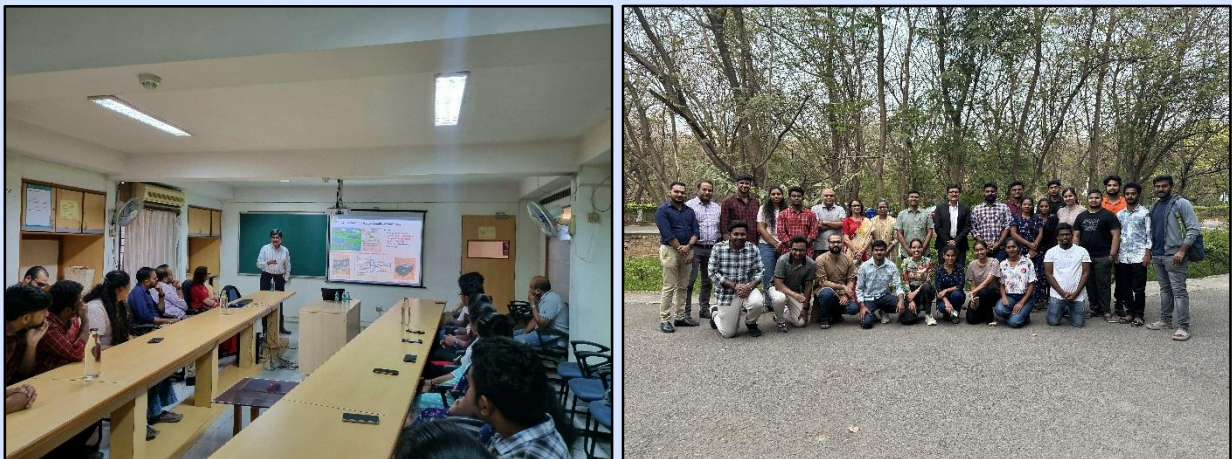
**Date & Venue:** 23<sup>rd</sup> January 2024 at IIIT, Hyderabad

**Proceedings of the event:** The IAStructE – IIIT Hyderabad student chapter of the Earthquake Engineering Research Centre organized a Guest Lecture on 23<sup>rd</sup> January 2024. Dr. Nemkumar Banthia, Killam University Professor and Canada Research Chair at the University of British Columbia, delivered the lecture offline. The lecture, titled “Sensor-Based Structural Health Monitoring” was attended by the M.Tech students, research interns, Ph.D. scholars, and faculty members. Dr. Banthia provided a comprehensive overview of essential aspects of the need for sensors to monitor structure’s behavior constantly. He highlighted the need to unify civil and electronic engineering for safer and more efficient structural designs. He also emphasized prospects for India in the domain of sensor-based monitoring for not only structures but broader domains.

He also showed the case studies, including a bridge collapse in Montreal, highlighting that the incident could have been prevented had there been sensors installed at the piers and foundation of the bridge. He reported that the inability to constantly monitor foundational behaviour and reliance on manpower that produces relatively inaccurate inspection reports are among the causes of structural collapses. This was followed by a segment highlighting the importance of sensors in water supply networks, which are used to maintain temperatures and chemical levels, detect leaks in pipelines, etc.

The final segment of the lecture involved a detailed look into different types of sensors actively used in different industrial domains. Bridge girder sensors to monitor loads on the bridge deck and pier and foundation sensors to check pier loads due to water flow and ice sheet formation (a common phenomenon in Canada) were discussed. He explained how smart concrete patches can detect leakages in the water supply. These sensors detect conductivity changes to identify the presence of water and cracks. Installation of nano carbon tubes can be an innovative approach to make concrete conductive and help in faster and more accurate data collection for the sensors. Other sensors included Medium Recognition Sensors for indoor flood detection, railway track damages, and monitoring water movement in soil.

Dr. Banthia also emphasized the need to integrate civil engineering and the IOT sensor industry for better load calculations, efficient design, and, eventually, safer structures that can withstand the test of time. This was a very engaging and insightful discussion, with active participation from the attendees. This discussion enriched the overall exploration of the topic and its significance in structural safety and integrity for constructions in India, with Canada being one of the benchmarks for sensor-based structural health monitoring.



*Fig.4 Glimpses of lecture by Dr. Nemkumar Banthia*

### ***Forthcoming Events:***

<b><i>Event</i></b>	<b><i>Speakers</i></b>	<b><i>Date &amp;Timing</i></b>	<b><i>Place</i></b>
Webinar 'Launching of Indian National Group of <i>fib</i> ' <b>Registration link:</b> <a href="https://us02web.zoom.us/join/register/WN_mJ8VDQf9RWWbceeXTmDJQg">https://us02web.zoom.us/join/register/WN_mJ8VDQf9RWWbceeXTmDJQg</a>	Eminent speakers from IAStructE and <i>fib</i>	07.02.2024 at 04:00 PM (IST)	Online through Zoom
Lecture-cum-Panel Discussions on Engineering Aspects of Shri Ram Mandir at Ayodhya <b>Registration link:</b> <a href="https://forms.gle/reiP3R8FzeZzjRWy9">https://forms.gle/reiP3R8FzeZzjRWy9</a>	Eminent speakers from IAStructE and CBRI-Roorkee	10.02.2024 from 09:30 AM to 01:00 PM (IST)	Online through Zoom

### ***IAStructE Library:***

IAStructE has set up a library at K-69 A, Basement Kalkaji, New Delhi. It has a collection of good technical books and journals related to civil & structural engineering. Members staying in the vicinity are encouraged to utilize this facility, and if you want to contribute your books and journal to the library you are always welcomed.



*Fig 5 IAStructE Library*

## Members Achievements:

M/s B&S Engineering Consultants Pvt. Ltd., headed by **Mr. Alok Bhowmick**, Past President, IAStructE and an active member in the current GC, has been honoured with the “CEAI National Awards for Excellence in Engineering Consultancy Services-2023” for their project "Consultancy Services for New Brahmaputra Bridge at Tejpur, Assam". The award was conferred during the Inaugural Session of the Seminar on “Quality of DPR and Construction of Highways” held on 9th January 2024 in Delhi, facilitated by Mr. PVVSS Ravi Prasad, DG (RD) & SS, Ministry of Road Transport and Highways.

This momentous occasion marks a significant milestone in B&SEC's distinguished history of contribution to the advancement of National Infrastructure Development.

IAStructE Governing Council congratulates Mr. Bhowmick for adding another feather in his cap and wishes his team many more accolades in future in the field of structural engineering.



Fig 6 Glimpses of Award Ceremony

## Message from IAStructE social media & Digitization Committee

Let's get **"DIGITIZED"**

With all new look of our website and media handles, please follow us on all major media platforms. For joining us, below mentioned links to be pasted in browser. Let's join hands together to promote the profession of Civil Engineering.

1. on **TWITTER** as **IAStructE**: - <https://twitter.com/iastructe>
2. on **Facebook** as **IAStructE**: - <https://www.facebook.com/IAStructE-100114022302316>
3. on **LinkedIn**: - The group is defined as Indian Association of Structural Engineers-IAStructE  
<https://www.linkedin.com/groups/6646248/>
4. on **YouTube** as **IAStructE Webinar**: - Subscribe and press bell icon  
[https://www.youtube.com/channel/UCvv7ojXO9Dxq1WtP\\_yHZTKw](https://www.youtube.com/channel/UCvv7ojXO9Dxq1WtP_yHZTKw)



### ***Call for papers for CROSFALL:***

CROSFALL is a newsletter created by Indian Association of Structural Engineers (IAStructE). Its purpose is to share lessons learnt from structural failures, near-misses and safety concerns. CROSFALL is greatly encouraged and inspired by CROSS (Confidential Reporting on Structural Safety), UK, which is a collaborative effort of three institutions (IStructE, ICE and IFE). **There is however no connection between CROSFALL-IAStructE and CROSS-UK**

CROSFALL Editorial Board invites reports for the forthcoming issues. Interested candidates can send the reports about structural safety issues related to all types of structures (i.e. buildings, bridges, tunnels, industrial structures etc.) in the built environment. The reporting can be related to:

- *Structural failures,*
- *Poor Design and Detailing, Lack of Seismic Safety in planning*
- *Safety concerns about high risk erection schemes at Site*
- *Safety concerns on Temporary Works*
- *Near misses, or observations relating to procedures followed at site, which may lead to failures or collapses.*

Reports do not have to be about current activities so long as they are relevant. Small scale events are equally important - they can be the precursors to more major failures. Report might relate to a specific experience or it could be based on a series of experiences indicating a trend. No concern is too small to be reported and conversely nothing is too large. Reports should aim to include information that will help others to learn from the safety issue identified.

To submit the report please go through the following link: [www.iastructe.co.in/crosfall.php](http://www.iastructe.co.in/crosfall.php)

### ***Call for papers for the theme-based issue of SED journal:***

SED Editorial Board invites article contributions for the forthcoming issue of the Structural Engineering Digest on the following themes, which shall be published in e-book format. Details are as under:

**January-March 2024 issue:** Theme: Tunnel/Underground Structures

Guest Editor: Mr. Partha Banerjee

**Sub-theme:**

- Tunnel Design: TBM, NATM, Cut & Cover and Cross Passage
- Tunnel Construction: TBM, NATM, Cut & Cover and Cross passage
- Underground Station Design
- Underground Station Constructions
- Instrumentation & Monitoring and Damage Assessments
- Geophysical Investigation in Urban Area

**April-June 2024 issue:** Theme: Industrial Structures

Guest Editor: Mr. V. N. Heggade

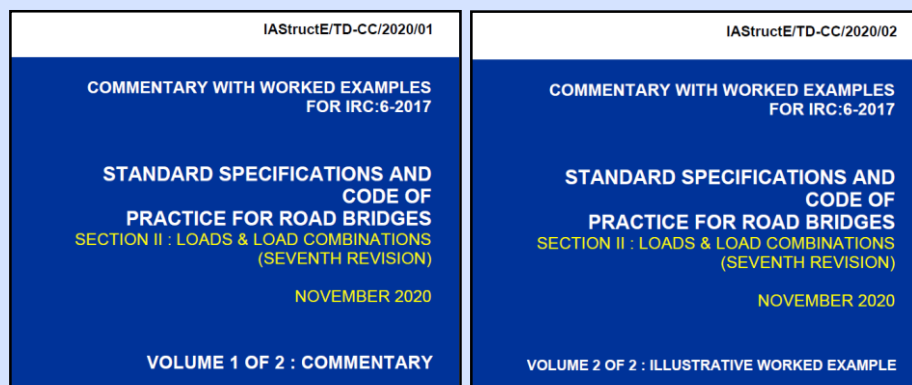
**Sub-theme:**

- Industrial Cooling towers and chimneys
- Factory Buildings
- Balance of plant structures in nuclear power plants, Thermal power plants, and hydel power plants
- Structures in steel and cement plants

Interested professionals may send their full paper on any of the above issues along with their photograph and brief resume latest by 28 February 2024 or at the earliest convenience. Articles are invited from i) Members of IAStructE; ii) Specialists in the field even though they are not members of IAStructE.

**IAStructE Publications:**

**1. Commentary with Worked Examples for IRC: 6-2017:** It is a document having commentary with worked example on IRC: 6-2017 (The code for Loads & Load Combinations for design of Highway Bridges). This commentary is in two separate volumes. Volume-1 pertains to the Commentary while Volume-2 pertains to Illustrative Worked Examples. It has 48 worked examples demonstrating application of various codal clauses.

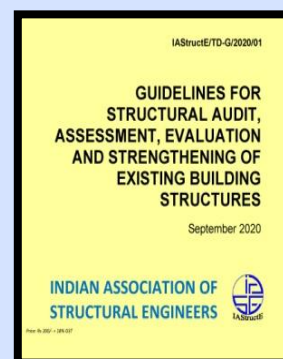


It's a priced document and hence not freely downloadable.

The documents are available for sale @ Rs. 1200/- for Volume 1, and @ Rs. 800/- for Volume II. Members of IAStructE and IRC will be entitled for a discount of 10% on this amount. Interested professionals who wish to purchase the commentary may kindly register with the following link or contact IAStructE Secretariat at [iastructe@gmail.com](mailto:iastructe@gmail.com)

Registration link: <http://iastructe.co.in/new-iastructe-publication.php>.

**2. Guidelines for Structural Audit, Assessment, Evaluation and Strengthening of Existing buildings Structures:** This document will guide structural engineers in proper assessment of building structures before issuing structural stability certificate. These guidelines may be used by IAStructE members, all other structural engineers, house owners, housing society welfare associations, clients and corporation engineers for understanding structural audit of the private and public building structures. The Guideline focuses on the urgent need to strengthen risk resilience of buildings from any kind of risks due to earthquake and other hazards. It is hoped that this document will be useful to ensure that all structures across the country remain safe from any kind of disaster risk.



It's a priced document and hence not freely downloadable.

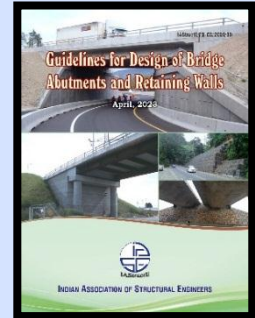
The price of this e-document is Rs 200/-. Interested professionals, who wish to obtain the soft version of the Guideline in pdf format, may register with the following link. Registration Link: <http://iastructe.co.in/guidelines-for-structural-audit.php>

**3. Commentary on IS: 13920:** The commentary is available on [www.iastructe.co.in](http://www.iastructe.co.in) under IAStructE Professional Documents. IAStructE member can access this document after login.

**4. Commentary on IS: 1893 Part 1:** The commentary is available on [www.iastructe.co.in](http://www.iastructe.co.in) under IAStructE Professional Documents. IAStructE member can access this document after login.

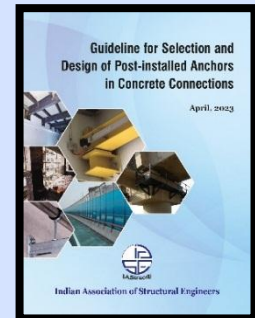


**5. Guidelines for Design of Bridge Abutments and Retaining Walls:** This document will assist practicing bridge and structural engineers in building confidence in the design of these structures, which offers tools for the design of economic and innovative retaining structures. The document is rich in theoretical explanations and draws on much experience of the authors. Worked examples further illustrate the application of the applicable codes and should promote better understanding.



The document is available for sale @ Rs. 1500/-. Interested professionals who wish to purchase this document may kindly contact IAStructE Secretariat at [iastructe@gmail.com](mailto:iastructe@gmail.com)

**6. Guideline for Selection and Design of Post-installed Anchors in Concrete Connections:** In this document, only post-installed anchors are covered including their types, behaviour and working principles, failure modes, and basic design steps for non-seismic and seismic situations. A few illustrative design examples too are presented for better understanding of design methodology. This document is now available on [www.iastructe.co.in](http://www.iastructe.co.in) under IAStructE Professional Documents. IAStructE member can access this document after login.



**IAStructE is now a Statutory Member of fib:**



## Indian Association of Structural Engineers is now a Statutory Member of *fib*

We are delighted to announce that IAStructE has become the Statutory Member of *fib* and Indian National Member Group representing India in *fib* general assembly.

The *fib*, which is “The International Federation For Structural Concrete” (Fédération Internationale du béton in French), is a not-for-profit association formed by 41 national member groups, is spread over more than 100 countries. *fib* has approximately 2500 corporate and individual members. The *fib*'s mission is to develop at an international level the study of scientific and practical matters capable of advancing the technical, economic, aesthetic and environmental performance of concrete construction.

As a statutory member of *fib*, IAStructE will represent India in the General Assembly and will enjoy the following benefits, which are exclusive to national member groups only:

- Voting rights in the general assembly of *fib*;
- Hosting rights for *fib* congresses and symposia;
- Events organised by IAStructE can be co-sponsored by the *fib*;
- Rights to nominate candidates for *fib* awards.

### Members of IAStructE will enjoy the following benefits:

- Opportunity to become a part of *fib* technical committees and contribute to the *fib* Model Codes (published approximately every 10 years).
- Opportunity to become a part of the *fib* Task Groups and Commissions .
- Opportunity to be nominated for the *fib* awards thru' IAStructE.
- Access to all the bulletins published since the 2022 through IAStructE.
- Eligible for 'subscribing' membership by paying discounted subscription fee.
- All current publications of *fib* can be purchased at discounted rates.

More information about the *fib* publications, bulletins, events, courses, and their proceedings can be obtained from <https://www.fib-international.org>

## INDIAN ASSOCIATION OF STRUCTURAL ENGINEERS

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### **Advertisement Tariffs:**

#### **Structural Engineering Digest (being published in PDF format)**

	<b>Rates Per issue</b>	<b>Discounted rate at 20% for 4 consecutive issues</b>	<b>Advertisement Size</b>
Full Page	Rs. 20,000/- + 18% GST	Rs 64,000/- + 18% GST	9.5-inch x 7 inch

#### **IAStructE Monthly Newsletter (being published in PDF format)**

	<b>Rates for advertisement</b>	<b>Advertisement Size</b>
Full Page	Rs. 10,000 per issue, 10% rebate for quarterly, 20% rebate for half yearly and 30% rebate for yearly booking	9.5-inch x 7 inch
Half Page	Rs. 7,000/- + 18% GST per issue, 10% rebate for quarterly, 20% rebate for half yearly and 30% rebate for yearly booking.	4.75-inch x 7 inch
1/8th of a Page	Rs. Rs. 2,000/- + 18% GST per issue, 10% rebate for quarterly, 20% rebate for half-yearly, and 30% rebate for yearly bookings. (Only for IAStructE Members)	Standard size of Business Card

### **Accredited Structural Engineers (ASE – IAStructE):**

The IAStructE program for Accreditation as Accredited Structural Engineers (ASE – IAStructE) is suitable for practicing structural engineers who have experience in the structural design field and have a good understanding of applicable design codes/standards in India.

This accreditation will help Structural Engineers in India to set a benchmark of proven professional & technical excellence and raise the levels of structural engineering practice in the Country. The entire program would be on the basis of a two-stage process consisting of an interview for the assessment of Initial Professional Development (IPD) followed by a written examination based on actual problem-solving. Applicants have to demonstrate their competence in the designated 12 key attributes on which they will be assessed during the interview. The applicant would then require to clear the examination by answering any single chosen question from the options given in the question paper with a minimum level of marks stipulated. Both stages are mandatory to clear the assessment process and thus to get recognition.

An Accredited Structural Engineer – IAStructE is someone who wishes to:

- validate their comprehensive experience and understanding of all types of structural engineering work and managerial capabilities
- demonstrate their competence on the basis of IPD and Continuous Professional Development activities in the field

Details of the application and assessment requirements, fees, and available dates can be consulted in the relevant fields given in the tabs below. They summarize the general application process, the assessment requirements, and the steps needed to qualify for the ASE-IAStructE accreditation.

The complete information about the entire process along with the application form and annexures can also be obtained from a booklet, which can be downloaded from the following link: <https://www.iastructe.co.in/ase-iastructe-accreditation.php>

This assessment process will be held bi-annually, being initiated in January & July respectively.





### ***About IAStructE:***

Indian Association of Structural Engineers (IAStructE) is the national apex body of structural engineers in India established with the objective to cater to the overall professional needs of structural engineers. The association has become the source of expertise and information concerning all issues that involve structural engineering and public safety within the built environment. It has no commercial aim or objective. IAStructE is purely a professional learned society with the prime objective of supporting and protecting the profession of structural engineering by upholding professional standards and acting as a mouthpiece for structural engineers. IAStructE endeavors to ensure that its members develop the necessary skill in structural engineering and work to the highest standards by maintaining a commitment to professional ethics and standards within structural engineering. IAStructE strives for continued technical excellence; advancing safety and innovation across the built environment. It also strives to make available to the Government, Public Sector and Private Sector - a credible source of well qualified and experienced Structural Engineers. A nationwide database of Structural Engineers has been compiled and is being constantly updated. IAStructE undertakes a broad range of technical activities which are aimed at information sharing and capacity building. The association provides opportunity for all the members to develop various skills in structural engineering and helps members to be at the forefront of structural engineering practice. Towards achievement of its aims and objectives, IAStructE is engaged in organizing the following: CPD Courses for Professionals at all levels Refresher Courses for Fresh Graduate Engineers, Student's orientation program, Seminars/Workshops, Technical Lectures by Experts, Technical Discussions on Contentious Issues. IAStructE is currently operating from four regional centers. These regional centres located in the Eastern, Western, Northern and Southern parts of the country effectively cater to the professional needs of members residing/practicing all over the country.

### ***Membership Benefits:***

Membership of IAStructE is a sought-after professional accreditation. Your membership of IAStructE can help you enhance your intellectual, academic, technical and professional status. It provides inter connectivity to the fellow professionals and the fraternity. Some of the benefits of membership is provided below:

- ★ Complimentary magazine subscription: All members (except Student Members) receive a complimentary subscription to the Institution's flagship publication 'Structural Engineering Digest' (SED). Published quarterly, each issue allows members to remain connected to the association through the provision of technical papers, Industry and Institution News, featured articles, Professional Guidance on everyday matters affecting the practicing structural engineers.
- ★ Access to the professional documents
- ★ Access to all Technical Lectures, organized every month, at no charge
- ★ Access to Technical Discussions held regularly
- ★ Access to the association's library (Including e-library)
- ★ Discounts in attending Seminars and Workshops organized by the association
- ★ Full on-line access to the current volume and entire e-archive of journal "Structural Engineering Digest (SED)", Refresher Course Materials, Technical Lectures, E-Newsletters and other Technical Resources of the Association.
- ★ Opportunity to network with professional structural engineers of eminence and to meet potential employers in the association.
- ★ Opportunities for professional development

### ***How to become a member?***

Membership form and details are available at <https://www.iastructe.co.in/membership-grades.php>; for more information and other details contact the Indian Association of Structural Engineers Secretariat

**Indian Association of Structural Engineers**

**K-69A, Basement, Kalkaji, New Delhi 110019**

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Indian Association of  
Structural Engineers

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BUILD IT WITH  
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