

GOA ENGINEERS NEWS

The Institution of Engineers (India)

AN ISO 9001 : 2008 CERTIFIED ORGANISATION
(Established 1920, Incorporated by Royal Charter 1935)

GOA STATE CENTRE

*"97 Years of Relentless Journey Towards
Engineering Advancement for Nation Building"*

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FROM CHAIRMAN'S DESK

Dear All,

A warm Happy New Year 2017 and Greetings of the season to you. I am very much delighted to write in this "ENGINEERS" issue.

Friends, the new Managing Committee of IEI Goa State Centre for the year 2016-18 has completed three months tenure. In this period we had 2 meetings of Managing Committee on 1st October & 26th November 2016, 32nd National Convention of Civil Engineers on 21st to 22nd October, 2016 and two seminars on 14th October 2016 on the Occasion of "World Standards Day" and on 14th December, 2016 on the occasion of "World Energy Conservation Day".

I had the opportunity to attend 31st Indian Engineering Congress held at Kolkata from 16th to 18th December, 2016 at Hotel J.P. Marriott. This was an annual event of the Institution of Engineers (India) which was well planned and performed. The programme was attended by corporate members in large number. Later on visited the IEI Headquarters at 8, Gokhale Road, Kolkata and called on the President. I had an interaction with the Er. Navin Vasoya, President, Major Gen. S. Bhattacharya, Secretary & Director General, Mr. Nilanjan Sen Gupta, Director (Technical), Mr. Saxena, Director (EEA), Dr. Ali, Director (Membership), Ms. Sukla Das, Director

Administration, Dr. Surojit Ghosh, Assistant Director (Technical) and Dr. Anilkumar, Deputy Director General.



On 22nd March 2017 we have proposed to celebrate 'World Water Day' on the theme "Waste Water". I request the members to come forward in joining the celebration. We have submitted a request to headquarters for holding 50th Convocation of IEI in Goa in October, 2017. Confirmation is awaited. Headquarters has requested the members for suggesting a suitable theme for 157th Engineers Day to be celebrated on 15th September, 2017.

A visit is planned to Jamshedpur to see the TATA Steel Plant. We intend to take at least 10 members to Jamshedpur.

Friends, it is a matter of deep concern that a large number of ENGINEERS issues have been returned back to IEI office due to incorrect address or addressee not available. All members are appealed to correct their address so that the next issue of 'ENGINEERS' is delivered at correct address.

At the same time we need to increase our membership. Our strength lies in our number. All members are required to bring more Engineers under the umbrella of The Institution of Engineers (India).

"I once again wish you all a Happy & Prosperous New Year 2017."

Er. Gurunath M. Naik Parrikar, FIE

World Energy Conservation Day



A talk on “**Role of Goa Energy Development Agency (GEDA) in Energy Conservation and in the Implementation of Renewable Energy Technologies**” was organized on 14th December 2016, it being the World Energy Conservation Day. The talk was held in the conference hall of Public Works Department, Altinho Panaji Goa and was delivered by **Dr. Pramod Pathak, Member Secretary, GEDA**. The importance of energy conservation and renewable energy


technologies in sustainable development was discussed at length. Dr Pathak emphasized on the need of energy conservation in local industries like Urrac manufacture and the role of technology in converting solid plant waste to combustible fuel in furnaces. The talk was attended by 30 participants and the programme was organized by the Convener of Mechanical Engineering, **Er. Balkrishna Chodankar**.




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Goa State Centre Conducts Winter 2016 AMIE Examinations

The Winter 2016 AMIE examinations of Section A and B for diploma stream was held from 03rd to 09th December 2016 at Government Polytechnic, Panaji. The number of students registered was 216 Nos.



Five examination halls & 11 invigilators were promptly arranged by Shri. T. K. Shridhar (HOD, Examination Section) and Er. Austin Rodrigues (Lecturer, Civil Dept.) of Government Polytechnic Panaji. The examinations proceeded smoothly without any problems.

The main aim of the centre is to increase the number of students passing out from Goa and neighbouring states with degrees. The centre also intends to increase the knowledge base by providing information and data

to the students.

The examinations were conducted by Er. Austin Rodrigues, Officer in charge, AMIE Exams IE (I), Goa State Centre and assisted by Ms. Vallavi Sirsat & Ms. Arthi Raul from The Institution of Engineers (I), Goa State Centre, The monitoring of the examination was done by the Hon. Secretary, Er. Deepak Karmalkar, under the supervision and control of Secretary and Director General.



Upcoming event

National Conference on Challenges in Environmental Management: Mines and Industries [CEMMI-17]

Goa College of Engineering is organising **National Conference on Challenges in Environmental Management: Mines and Industries [CEMMI-17]** on 20th and 21st April 2017, in association with **The Institution of Engineers(India), Goa State Centre** and **Mining Engineers' Association of India, Goa Chapter**.

The conference will address the problems and challenges posed in various fields of environment towards sustainable development and will discuss solutions to overcome these problems. Past experiences will be shared and applications of new sustainable technologies will be explored. The conference also marks the Golden Jubilee Celebrations of Goa College of Engineering, Farmgudi. For more information, Convener may be contacted on *email: cemmi2017@gmail.com*

Chairman visits IEI Headquarter at Kolkata

After attending the 31st **Indian Engineering Congress** at Kolkata from 16th to 18th December, 2016 at Hotel J.P. Marriott, I visited the IEI Headquarters at 8, Gokhale Road, Kolkata and called on **Er. Navin Vasoya, President, IEI**. Allocation of Council Seat to the State of Goa was the point for Discussion. The IEI, President assured to look into the matter and take up the issue with By-Law Committee.



Er. G. M. Naik Parrikar seen with
Er. Navinchandra B. Vasoya, President, IEI



Er. G. M. Naik Parrikar seen with
Major Gen. S. Bhattacharya, SDG, IEI

Later on called **Major Gen. S. Bhattacharya, Secretary & Director General**, who appreciated the activities taken up by Goa State Centre, specially, **32nd National Convention of Civil Engineers in Goa**.



Er. G. M. Naik Parrikar seen with
Mr. Nilanjan Sen Gupta, Director (Technical), IEI
& Dr. Surojit Ghosh, Asst. Director (Technical), IEI



Er. G. M. Naik Parrikar seen with
Dr. Jitendra Saxena, Director (EEA), IEI



Er. G. M. Naik Parrikar seen with
Dr. (Prof) Sayed Majid Ali, Director
(Membership), IEI



Er. G. M. Naik Parrikar seen with
Ms. Shukla Das, Director Administration, IEI

Also met Mr. Nilanjan Sen Gupta, Director (Technical), Dr. Jitendra Saxena, Director (EEA), Dr.(Prof.) Sayed Majid Ali, Director (Membership), Ms. Shukla Das, Director Administration, Dr. Surojit Ghosh, Assistant Director (Technical) and Dr. Anilkumar, Deputy Director General.



Steganography

Steganography is the art and science of writing hidden messages in such a way that no one apart from the sender and intended recipient even realizes that there is a hidden message. By contrast, cryptography obscures the meaning of a message, but it does not conceal the fact that there is a message. The word steganography is of Greek origin and means "covered, or hidden writing". Its ancient origins can be traced back to 440BC. The Greek ruler Histaeus employed an early version of steganography which involved: shaving the head of a slave, tattooing the message on the slaves scalp, waiting for the growth of hair to cover the secret message, and sending the slave on his way to deliver the message. The recipient would have the slave's head to uncover the message. In the same time period, another early form of steganography was employed. This method involved Demeristus, who wrote a message to the Spartans warning of eminent invasions from Xerxes. The message was carved on the wood of wax tablet, and then covered with a fresh layer of wax. This seemingly blank tablet was delivered with its hidden message successfully.

Thus a steganography technique embeds the secret message into a cover media which may be image, text, audio or video in such a way that attackers don't have any idea about the original message that the media may contain. One of the most commonly used algorithm is Least Significant Bit (LSB) algorithm. In this technique, the LSBs of the pixel values of cover image are modified according to bits of message. The simplest of LSB steganography techniques is LSB replacement for all pixels of image. Since only LSB is changed, difference between the cover (i.e. original) image and the stego-image is hardly noticeable.

Now let us see a small example of how the message will be stored. Consider 8 bytes of cover file (say bitmap file). Let the 8 bytes be

11111010	10101010
11110000	01010110

10010010	01101110
11111110	10101010

Consider a message byte 11111111, we should embed all these 8 1s in the image file. Since we are going to use LSB algorithm we need 8 bytes from cover file to embed a byte of message file. This is done by, covering each and every bit of message file by the LSB of cover file.

1111101<u>1</u>	1010101<u>1</u>
1111000<u>1</u>	0101011<u>1</u>
1001001<u>1</u>	0110111<u>1</u>
1111111<u>1</u>	1010101<u>1</u>

The 1s which are underlined denote the message bit embedded in the cover file.

In the near future, the most important use of steganography techniques will probably be lying in the field of digital watermarking. Content providers are eager to protect their copyrighted works against illegal distribution and digital watermarks provide a way of tracking the owners of these materials.

Applications

- ❖ Confidential communication and secret data storing.
- ❖ Protection of data alteration.
- ❖ Access control system for digital content distribution.
- ❖ Media database systems.

FIELDS OF APPLICATION:

- ❖ Defence and intelligence
- ❖ Medical
- ❖ Online banking
- ❖ Online transactions

Authors :

Aisharwarya K.C, Shivani Raikar, Kirti Shetty, Shantavi Singbal (Currently studying at PCCE)



Upcoming event

National Level Paper Presentation and Competition

“AVHAAN 2017”

Government Polytechnic, Panaji, is organizing Two day **National Level Paper Presentation and Competition** for diploma Students in association with **Institution of Engineers(India), Goa State Centre** on 16th and 17th March, 2017, at premises of Government Polytechnic, Panaji.

The objectives of this event are, to provide greater opportunity for students to exchange and share their experiences, broaden their horizon and perspective in academics, provide an effective and all-inclusive platform for Industry Institution Interaction, facilitate direct interaction between students and the industry personnel and for students to gain knowledge about industry, recent Industry Standards and Projects.

First day of the program is planned for 4 parallel sessions of paper presentation and second day is planned for various events like quiz, poster making, CAD 3D modeling, truss making, model making, line follower Robot etc.

Upcoming event

WORLD WATER DAY

The Institution of Engineers(India), Goa State Centre is organising WORLD WATER DAY on 22nd March 2017, in association with Indian Water Works Association, Goa State Center.

Drawing Competitions are planned for school students on World Water Day, with the theme “Waste Water”. And also Power Point Presentation Competition with same theme is planned for students of Polytechnic/Colleges across state of Goa. The Intuition of Engineers(India), Goa centre can be contacted for further information

New members list

Name	Location	Division	Grade/Upgraded	Month of Joining
Naik Kaustubh Rajesh	Margoa	Civil	AM-170227-3	12 th December 2016
Naik Akhil Damodar	Sancoale	Electrical	AM-170480-2	31 st December 2016
Naik Madhuraj Kiran	Ponda	Civil	AM-170511-6	31 st December 2016
Shenvi Usgaonkar Rutuja Vishant	Ponda	Electronics	AM-170528-0	31 st December 2016
Ravi Kant Sharma	Vasco	Civil	AM-170755-0	31 st December 2016
Pokle Vijay Subhashchandra	Mapusa	Mechanical	M-156763-7	31 st December 2016
Kalpita Kiran Naik	Santa-Cruz	Civil	M-156764-5	31 st December 2016



Water Treatment Plant at Salaulim

The state of art **Water Treatment Plant at Salaulim** has been the lifeline of the people of South Goa. Inaugurated recently on 15th May 2016, this 100 MLD Water Treatment Plant (WTP) has been constructed at a cost of Rs. 138.50 Crore under JICA ODA Loan Project through External Assistance.



Panoramic view of WTP at Salaulim



Electric Substation



Raw water Pump House



Raw water intake

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Save Green Cover...
Stop Hill Cutting

For enquires please contact : 09225909114 / 09225220108

Location: Sanguem, South Goa.

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The Intake Channel for WTP is selected adjacent to the existing Channel to ensure uninterrupted flow of raw water to the WTP through intake well up to the end of summer season. **The intake well houses four Pumps [2 for higher level 710 HP each (1W+1S) and 2 for lower level 585 HP each (1W+1S) of 100MLD / 4565 cubic meter per Hour capacity.** It is constructed at a distance of 120 meter from water body of the dam. The floor / ground level of pump house is at +60.00M. The intake well is constructed at this point using **well sinking method** up to a finished floor bottom level of +17.00M. Pump House sits on this intake well.

The Water Treatment Plant comprises of **Aerator, Lime / Chlorine dosing Tank, Parshall Flume, Fore-bay to mixing chamber, Distribution Chamber and Channel, Clariflocculators, Filters, Waste Water Basin, Thickener, Dehydrator (Centrifuge), Chlorination House, Chemical House, Backwash Tank (Elevated Tank), Electrical equipment and other facilities like Pump House and Pump Control Room, Office Building, Laboratory, 33 KV Electrical Substation etc.**

Clear Water Pump House consists of 4 Pumps (1500 cubic meter / Hour -3W+1S) installed and header line connected to the delivery line through **EMF Water meter and control valve. Delivery line is connected to 20,000 m3 capacity MBR at Sirvoi.**



Intake well during sinking operation

Er. Gurunath M. Naik Parrikar



BOOK-POST	
<i>If undelivered, please return to The Institution of Engineers (India), Goa State Centre, D Type quarters, D-8-1, Government Polytechnic Campus, Altinho, Panaji Tel No: 2434686</i>	

We request our members to get more interactive with the Institution. We'd love to have your contributions towards our bulletin too. Do send in your articles, reports and other information that you'd like to share with other members to our office:
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