



ISHRAE-IEM STUDENT **CHAPTER**

ANNUAL ACTIVITY REPORT SESSION: 2017-2018

**MECHANICAL AND ELECTRICAL ENGINEERING
DEPARTMENT**

INDEX OF EVENTS IN CHRONOLOGY			
S.No.	Organising Body	Event Name	Date
1	ISHRAE Kolkata	WOMEN IN ISHRAE-Regional Meet	28 APRIL 2017
2	ISHRAE	AICTE ISHRAE Refresher Course-1	19-23 June 2017
3	ISHRAE- IEM	Workshop on Heat Load Calculation	20-22 JULY 2017
4	ISHRAE Kolkata ISHRAE IEM	Technical Lecture series	5 AUG. 2017
5	ISHRAE- IEM	Taapmaan 2017	11 AUG 2017
6	ISHRAE Kolkata	Technical talk on Central plant engineering	12 AUG.2017
7	ISHRAE Kolkata	TT on opportunities & challenges in HVAC	12 AUG.2017
8	ISHRAE- IEM	CWC Installation	12 AUG.2017
9	ISHRAE Kolkata ISHRAE- IEM	Signing of MOU	12 AUG.2017
10	ISHRAE Kolkata MCKVIE	ISHRAE Student Day 2017	24 AUG.2017
11	ISHRAE Kolkata	PVR Multiplex visit	18 OCT,2017
12	ISHRAE Head Quarters ISHRAE Kolkata	ISHRAE Job Junction 2017	6-9 NOV.2017
13	ISHRAE	AICTE ISHRAE Refresher Course-2	4-8 December 2017
14	ISHRAE Kolkata	RACON 2017	15-16 DEC.2017
15	ISHRAE Kolkata	EKO-PET CT Project	23 DEC.2017
16	ISHRAE Kolkata	TT on ECBC overview	23 DEC.2017
17	Indian Institute of Welding ISHRAE Kolkata	WELD 2018	13 JAN.2018
18	ISHRAE Head Quarters ISHRAE Kolkata	AQUEST 2018	17-18 JAN.2018
19	ISHRAE- IEM	INNOVACION 2018	23-25 JAN.2018
20	ISHRAE Kolkata	TT on Gas Phase Filtration using Chemical Filters	2 FEB. 2018
21	SEEAWB ISHRAE Kolkata	Seminar on Building Services through Intelligent Network	4 FEB.2018
22	ISHRAE Head Quarters	ISPG 2017	
23	ISHRAE Head Quarters	NSDC 2017	

ABBREVIATIONS:

SEEAWB – STATE ELECTRICAL ENGINEERS ASSOCIATION, WEST BENGAL.

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7.2	ISHRAE Kolkata MCKVIE	ISHRAE Student Day 2017	24 AUG.2017
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7.4	ISHRAE	AICTE ISHRAE Refresher Course	19-23 June 2017 4-8 December 2017

SPECIAL ACHIEVEMENTS

RACON 2017

- THE TEAM OF SHOUNAK DAS, MD.SAKIB RAHI, SHUBHAM BARNWAL& RAMESH KUMAR KARTHICK BAGGED THE **FIRST POSITION**
- THE TEAM OF SOURAV SARKAR, AMAN SULTANIA, GAURAV KR. JHA & ABHISHEK KUMAR SECURED THE **SECOND POSITION**.

A-QUEST 2018

- **FIRST PRIZE** IN EAST ZONE IN THE **QUARTER FINALS** BY SAURAV KUMAR AND RAMESH KUMAR KARTHICK.
- **FIRST PRIZE** IN EAST AND SOUTH ZONE IN THE **SEMI FINALS** BY SAGNIK MAITY & RIAZUL HOQUE.
- **SECOND PRIZE** IN EAST AND SOUTH ZONE IN THE SEMI FINALS BY SOURAV SARKAR & AMAN SULTANIA

ISHRAE JOB JUNCTION 2017-EAST ZONE

- **11 OUT OF 12 SELECTED CANDIDATES** IN ISHRAE JOB JUNCTION 2017-EAST ZONE WERE FROM IEM AS PER DATE.
- THE HIGHEST PACKAGE FOR THE MECHANICAL CANDIDATE WENT TO
- THE HIGHEST PACKAGE FOR THE ELECTRICAL CANDIDATE

ISHRAE STUDENT PROJECT GRANT

- THE TEAM OF ROHAN LAL KSHETRY, RIAZUL HOQUE, SAGNIK MAITY AND RITABRATA DALUI GOT THE PROJECT GRANT OF RS. 50,000 FROM ISHRAE STUDENT PROJECT GRANT FOR THEIR PROJECT “STENOCARA WATER HARVESTER”.
- THE TEAM OF RAJDEEP DE, RAJ KAMAL, RAHUL KUMAR AND SUBHRASISH PAL GOT THE PROJECT GRANT OF RS. 45,000 FROM ISHRAE STUDENT PROJECT GRANT FOR THEIR PROJECT “EVAPORATIVE COOLING SYSTEM WITH DESSICANT DEHUMIDIFICATION FOR ROAD TRANSPORTATION OF FRUITS & VEGETABLES”.

SPECIAL NEWS

DR. SATYAJIT CHAKRABARTY, DIRECTOR OF INSTITUTE OF ENGINEERING & MANAGEMENT (IEM), KOLKATA, IS NOW A REGULAR MEMBER OF ISHRAE. THISGIVES AN EVIDENCE OF THE VIBRATION AND DYNAMIC NATURE OF ISHRAE.

Annual General Meeting (AGM) of ISHRAE IEM Students' Chapter

The Annual General Meeting of ISHRAE IEM Students' Chapter was organised on 25th April 2017 from 4:00 pm to 5:30 pm. The meeting began with a presentation on the achievements of the society in the last one year by the Former President, Mr. Nirabhra Mandal. ISHRAE-IEM achieved a lot in the previous year, some of the special ones being the organisation of ISHRAE JOB JUNCTION in IEM, awards in RACON and a-Quest 2017. ISHRAE-IEM left its mark on all fronts, from zonal to national level.



Mr. Nirabhra Mandal(Former President)

Mr. Tapobrata Bhattacharya(HOD-Mechanical)

It was followed by an inspirational speech from Prof. Tapobrata Bhattacharya ,HOD-Mechanical Department. Prof. Prabir Kumar Das then announced the names of the newly selected Core Working Committee for the year 2017-18. Mr. Debdut Bosu was elected the new President with Mr. Sourav Sarkar and Mr. Gaurav Kumar Jha as the new Secretary and Treasurer respectively. The other CWC Members include Ms. Sohini Banik, Mr. Rohan Lal Kshetry, Aman Panesar, Mr. Abu Fazal, Mr. Uttaran Sarkar and Mr. Shounak Das. It was the first time a girl candidate made into the CWC. Ms. Sohini Banik is also the President of the Girls' Working Committee with Ms. Shrestha Sadhya, Ms. Sidra Fakhri and Ms. Meghna Saha as the Committee members.



The new CWC members with the faculty members

The event proceeded with the distribution of the Volunteers' Certificates to all the volunteers as well as the IJJ Certificates to the IJJ Execution team. Later the Faculty Advisor, Prof. Gunjan Kumar announced the names of the new Girls' Working Committee members. He then announced the names of the Class Spokespersons for the different classes. Mr. Abhishek Bhattacharjee (ME-3rd year), Mr. Subhrasish Pal (EE-3rd year), Mr. Md. Sakib Rahi (ME-2nd year), Mr. Jyotirmaya Jyoti (EE-2nd year) and Ms. Gayatri Singh (EE-1st year) were selected as the spokespersons for their respective classes. The previous CWC members were thanked for their dedication and efforts to keep the society ahead in all fronts.



The GWC Members



The respective Class Spokespersons



The previous year CWC members

Prof. Gunjan Kumar and Mr. Alomoy Banerjee (President for the year 2015-16) then addressed the audience and blessed the new team to take the legacy of ISHRAE-IEM forward. The former Treasurer, Mr. Abhishek Bhattacharya later presented the finance report for the last one year.



Prof. Gunjan Kumar(Faculty Advisor, ISHRAE IEM Students' Chapter)

Mr. Debdut Bosu finally brought an end to the proceedings. He addressed the audience and stated to endeavor and accomplish the responsibility which would be entrusted to him together with his team.

1.SITE VISITS

1.1 MULTIPLEX SITE VISIT FOR NSDC

VENUE:- Diamond Plaza,Nagerbazar,Kolkata

ISHRAE Kolkata Chapter organised a very special site visit of a multiplex (PVR) at Diamond Plaza for the students of ISHRAE Kolkata chapter participating in National Student Design Competition (NSDC) on 18th October, 2017. Students from different chapters like IEM, Jadavpur University and Assansol Engineering College were present there. ISHRAE Kolkata's cwc member Mr. P.K Sen sir & faculty advisor of ISHRAE IEM Student Chapter as well as cwc member of ISHRAE Kolkata chapter Prof.Gunjan Kumar were present with students during this site visit.



Students and chief engineer Mr. Debashish during the visit of AHU

On behalf of PVR, Mr Debashish, the chief engineer of the HVAC systems was present there. After having a brief introduction related to HVAC design of the multiplex, students were taken to different units, starting from "Air Handling Unit" section. Here, students were briefed about how air circulation takes place inside the auditorium of the multiplex. There students were shown Air handling device and told about working of it and different parameters. Having idea of Air circulation and setup regarding this, students were taken to chiller section, which was situated at the roof of the mall. There were two chillers of air-cooled type. One was in active mode, and other in standby. There students were briefed about working of chillers. Compressor used were of Semi hermetic screw compressor type and refrigerant used was R-134a. There was also pumping room where motors were there

for pumping the chilling water to Air handling unit. Two types of motors were there - 1)primary ,and 2)secondary



Students with Mr. P.K.Sen during the visit of chillers

After having all these ideas of hvac design, students were taken into auditorium for the observation of inlet and outlet duct of air. Ducts were at the ceiling of the auditorium. After that,at last, Mr. P.K. Sen sir gave conclusion of the things visited there and told about how it would be beneficial for NSDC. Thereafter, Prof. Gunjan Kumar thanked Mr. Debashish and then all dismissed.

1.2SITE VISIT AT EKO PET-CT PROJECT

ISHRAE Kolkata Chapter organized an HVAC Project Site visit, at Eko Hospital, Rajarhat, Kolkata, for its IEM Kolkata Student Chapter members, on December 23th, 2017. The primary purpose of this visit was to help the students get acquainted with the major equipments of the HVAC system. Ten student members of IEM Kolkata were given the opportunity to visit the site. Mr ShantuHar of Universal Group and Prof.Gunjan Kumar, faculty advisor- ISHRAE IEM Student Chapter accompanied the students to the site and coordinated the entire visit.

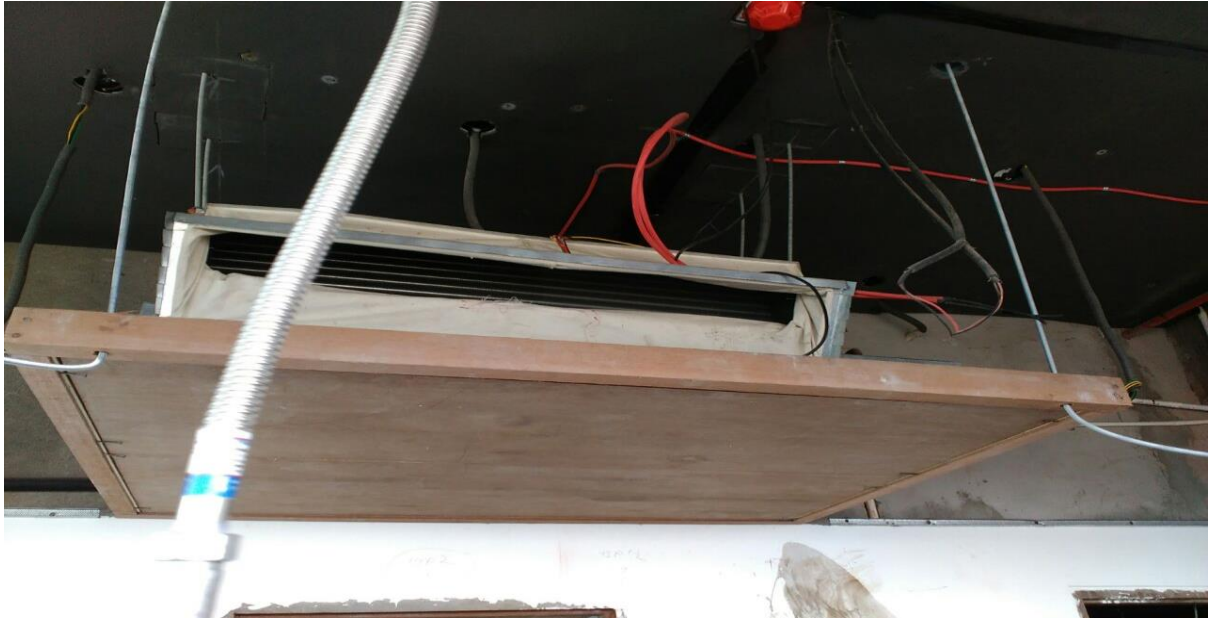


IEM student members at the site

The building comprised of a separate VRF system for the extremely sensitive chemotherapy facility at the ground floor while the other floors had centralized screw type air cooled chiller system. The instructor enriched all the students with a complete description of air conditioning sequentially one after another of the entire building. It covered the chemotherapy room thereby Operational Theatre on the ground floor, Critical Care Unit on the second and third floors with equipments like Air Handling Units (AHU) with Fan Coil Units (FCU) especially for the suite rooms.



IEM student members Project Incharge



2 Fan Coil Unit installed in suite rooms



3 Chillers installed on the terrace of the building

The visit was a highly real life learning experience for all the participants of IEM student chapter. Visit ended with very high note of student interaction with Project Engineer Mr Shantu Har.

2. SEMINARS

2.1 TECHNICAL LECTURE SERIES DAY

VENUE:- INSTITUTE OF ENGINEERING AND MANAGEMENT, KOLKATA

DATE:-05/08/2017



Students and the delegates attending the event

ISHRAE Kolkata with support of ISHRAE Youth team had organizing a "**Technical Lecture Series Day**" for students of Engineering Colleges under Kolkata student Chapter on 5th of August, 2017 at APJ Abdul Kalam Hall, Institute of Engineering & Management, Kolkata. This initiative is dedicated to provide exposure for the students to learn from industry experts about different technical topics. Four technical talks were delivered within a day by the professionals of four HVAC industry giants. The following are the details of the same :-

- “*Central Plant Engineering*” by Mr. Supratim Mukherjee, **Trane India.**
- “*Importance of Insulation in HVAC System*” by Mr. Sumit Das, **Armacell India.**
- “*Over view of VRV System*” by Mr. Avik Roy, **Diakin India.**
- “*Building Automation System*” by Mr. Kaushik Bhattacharya, **Honeywell India.**

The event began with the hosts, Saurav Sarkar, Akanishtha Banerjee and Gayatri, welcoming all the attendees. The guests for the event from ISHRAE Kolkata, Mr. Subhasish Dasgupta, Mr. Gautam Mukherjee, Mr. Utpal Biswas and Ms. Nilanjana Mukherjee also attended the event. All the ISHRAE delegates were welcomed and felicitated with bouquets and gifts by the professors of IEM. Prof. Dr. Satyajit Chakraborty and Prof. Tapabrata Bhattacharya thanked ISHRAE for providing the opportunity to host such event and welcomed everyone at

IEM. The speakers were felicitated with bouquets and gifts by Prof.Dr. Satyajit Chakraborty, Prof. AmlanKusumNayak, Prof. Dr. Arun Kumar Bar and Prof. Prabir Kumar Das.

The speakers were introduced to the students by Ms. **Nilanjana Mukherjee**, CWC,ISHRAE Kolkata.



ISHRAE delegates and speakers along with the professors of IEM during inauguration ceremony



Mr. SubhasishDasgupta being felicitated by Prof. Tapobrata Bhattacharya

Around 350 students from various colleges attended the event. Participating colleges are mentioned below:-

- Gargi Memorial Institute of Technology.
- IEST, Shibpur.

- Institute of Engineering & Management.
- Kalyani Govt. Engineering College.
- CV Raman College of Engineering.
- MCKV Institute of Engineering.



Students from various colleges listening to the technical talk



Mr. Supratim Mukherjee addressing the students on “Central Plant Engineering”



Mr. Sumit Das addressing the students on "Importance of Insulation in HVAC System"



Mr. Avik Roy addressing the students on "Over view of VRV System"



Mr. Kaushik Bhattacharya addressing the students on "Building Automation System"

ISHRAE Kolkata also presented gifts to all the speakers after their respective session. All the sessions and the event throughout was very beneficial and enriching for the students.



Mr. Utpal Biswas concluding the event with his words

Mr. Utpal Biswas concluded the event with his encouraging words and wished all the students best of luck for their academic as well as their future career. It was very successful as around 350 students along with their faculty all across eastern region of ISHARE student chapter had participated and appreciated the effort.

2.2 Technical Talk on Central Plant Engineering by ISHARE Kolkata

Date: 12th August, 2017

Student chapter: Institute of Engineering & Management, Kolkata

Speaker: Mr. Prateek Dutta Roy

Total Participation: 150

The technical talk event on the topic Central plant engineering by Mr. Prateek Dutta Roy (Training Chair, ISHRAE) was organized by ISHRAE IEM Student Chapter on 12th August 2017, from 11:00 pm to 1:00pm. The technical talk was opened with welcome address by HOD-Mechanical Engineering, Prof. Tapobrata Bhattacharya.



Mr. Prateek Dutta Roy

Prateek Dutta Roy addressed the students and started his discussion about the fundamental of air conditioning system and latter his presentation on central power plant engineering enlightened everyone. The technical talk was very interesting and fruitful for the students.

The event ended with a question answer session, where the students asked questions to the speaker regarding the technical talk. Around 150 student attended the event.



Students interaction with speaker

2.3 Technical Talk on Opportunities and Challenges in HVAC- **By ISHRAE Kolkata**

Student Chapter: IEM, Kolkata

Date: 12th August, 2017

Venue: Institute of Engineering & Management, Kolkata

Speaker: Mr. Subhashish Dasgupta

Total Participation: 650

Mr. Subhasish Dasgupta, Zonal student activity Chair, ISHRAE, addressed the first year students as well as ISHRAE members of IEM Kolkata. He discussed with them the **various challenges and opportunities** in the HVAC sectors, especially for a fresh under graduate students.

He told them about the areas of interest in this sector, especially for a fresher, to keep them motivated and to perform and learn, both in ISHRAE events as well as the HVAC field. Various concepts, right from Global Warming to Green Buildings, Zero Energy Buildings, Thermal as well as Cold Storage, and the various organizations important in the field of HVAC were thrown light upon.



Mr. Subhashish Dasgupta addressing the students

He concluded by explaining the motive of ISHRAE society, its aim of bringing together college students and industrial professionals under one umbrella, and to keep motivating the students to learn, perform and grow in HVAC.



Students during the session

2.4 TECHNICAL LECTURE ON ENERGY CONSERVATION BUILDING CODE OVERVIEW

Student Chapter : IEM, Kolkata

Date: 23rd December, 2017

Venue: Institute of Engineering & Management, Kolkata

Speaker: Mr. Kumar Biplab

Total Participation: 10

The technical talk event on the overview of Energy Conservation Building Code by Mr. Kumar Biplab, K-12 ISHRAE Kolkata Activities' Chair and Associate Director (East Region), Green Tree was organized by ISHRAE Kolkata on 23rd December 2017, from 10:00 AM to 12:30 PM. The technical talk was opened with the welcome address by the Student Activities' Chair- ISHRAE Kolkata and faculty advisor- ISHRAE IEM Student Chapter, Prof. Gunjan Kumar. The speaker was felicitated and welcomed by the faculty advisor of MCKVIE ISHRAE Student Chapter, Prof. Sumanjan Bhattacharya.

He discussed the main aim of the ECBC; i.e. to make a building efficient by reducing the daily power and energy consumption of the building and thus restoring the resources of the earth for future purposes and uses. He also explained the key objectives in the ECBC 2017 development and the design norms this code provides.

The technical talk was followed up by the question and answer session between the speaker and the attendees. It was a highly acknowledged event, with students feeling highly benefitted by it.



2.5 SEMINAR ON WELD 2018

VENUE:- Science city auditorium, Kolkata.

Indian Institute of Welding, Kolkata branch organised a technical seminar on 'Latest Technology & Skill Development in Welding', on 13TH January 2018 which was attended by five students from IEM along with Prof. Gunjan Kumar. ISHRAE IEM Students' Chapter sponsored them as student Delegates for the event. The Technical Session was very enriching, interactive and thought provoking one. A brief overview of the technical sessions is given below.



THE STUDENT DELEGATES ALONG WITH PROF. GUNJAN KUMAR

The first session was coordinated by Prof. Ashish Kumar Nath from IIT Kharagpur, which was a keynote address on High Power Lasers. In this Lecture a brief overview was given on laser welding and their advantages. The basic principle of laser welding i.e. focusing an intense laser beam on the workpiece causing heating, melting and controlled evaporation and then placing the parts to be joined very close to each other and thin layers being melted by laser beam thereby forming a sound joint. The common types of lasers used are CO₂ laser, Nd:YAG solid state laser, fiber laser, and high power diode laser, all operating in infrared (0.8-10 μ m) wavelength range. Two different types of laser welding were introduced i.e. Laser conduction welding where the full penetration welding is achieved by heat conduction mechanism and the weld width is usually broad due to plasma formation over melt pool and convective flow in pool induced by Marangoni force, caused by varying surface tension with temperature & Deep penetration laser keyhole welding in which the escaping vapour exerts recoil pressure on the molten pool thereby forming a hole upto the unmelted surface. On continuing with this the laser beam reaches the bottom and hole gets deeper. This is carried out upto desired length and as the laser beam is moved away from the keyhole the molten layer initially pressed to the wall collapses in the keyhole and fuses, thereby forming a joint. Apart from these Laser surface cladding and additive manufacturing by layer by layer powder deposition are useful for refurbishing costly engine parts as turbine blades, improve surface qualities like wear & corrosion. The microcracks, microstructures & phases could be assessed by observation of parameters like heating & cooling rates, melt pool & solidification lifetimes.

The second session was a memorial lecture by Mr. Pabitra Kumar Das, on Challenges of skill development in welding, in the memory of Late Sri Soumitra Kumar De. Mr. Das highlighted the various challenges faced in India. The continuously growing population, the inability of majority of Indians to understand English are some of the major problems being faced today. The statistics of Indian Welding Industry states that there is a great demand for Steel & Welding Personnel. But there are various welder training issues such as outdated training, high cost of training etc. There are various myths related to welding that welding is a tough & risky job etc. But this is not the case. Welding has many opportunities. It is adapting, dynamic & challenging. It is an occupation with growth and is exciting and satisfying. Agencies and institutions should take effort to produce fruitful results and as a result people will tend to choose welding as a carrier to meet the huge demand that exists in the field at various levels.

Technical Session - I (on Skill Development)

The session was chaired by Mr. Sushim Banerjee, CEO, Indian Iron & Steel Council .

The first lecture was by Swami Dhyeyananda, Officer in-charge, Ramakrishna Mission Shilpapitha. The session was based on Ramakrishna Mission's work in the field of Technical and Vocational Education. The underprivileged youth should be targeted and groomed to be an extraordinary Professionals having self confidence and self respect. For being employable, individuals should possess practical knowledge, have knowledge of MS-Office, have an exposure to industry etc. All individuals must be given text books, study materials and they should be given proper guidance & training to become industry ready. The major

challenges being faced are availability of proper faculty, self-motivation and commitment of students, getting funds from government etc. In order to solve these problems the teachers should be awakened and students should be inspired. Ultimately the sole objective should be to groom Enlightened Professionals as a charity to the Nation.

The next topic was “Embarking on a journey to make ‘Skilled in Odisha’ a global brand”. This was presented upon by Mr. Shashidhara H.N. , General Manager, training Operations & Industrial Partnerships, Odisha Skill Development Authority. He put forward to the audience the evolution of “Skilled in Odisha” and the objectives and goals of The Odisha Skill Development Authority. He then elaborated upon the journey covered by the OSDA and their future plans. He also put light onto the role of ITIs in creating role models for inculcating aspirational values in the men and women. Then he also threw light upon the role played by entrepreneurship in the area of skill development for a better future of our country as a whole in the accelerating demand of the years to come. Finally he concluded with focusing on improvement of technical education (especially practical).

The next speaker of the day was Mr. Sandip Chakrabarti, Principal, Quivan Skill Empowerment Pvt. Ltd., Sodepur, West Bengal. He presented a case study on the topic of Skill Development by Quivan Skill Empowerment, in which he discussed the requirement of technical skills, threw light upon the market demands and hence put forward the mission and vision of Quivan Skill Empowerment. He swiftly covered the elements required for skill development such as mental preparation, communication skills, and dexterity of fingers and mind, etc. He concluded his presentation by showing the audience the equipments and the workings of Quivan.

The next session started off just after the lunch session. It was comprised of technical lectures and paper presentations by eminent speakers and company dignitaries.

Technical Session - II (on Latest Technology)

The session was chaired by Prof. G.L.Datta, Ex-Chancellor, K.L.University, AP.

The first lecture was given on “Cold Metal Transfer – Latest Intelligent Technology towards Industry 4.0” by Mr. Amlan Saha, Automation PW – Sales Project Management/Segment Manager-Engineering Industry. The speaker took us through the Cold Metal Transfer process, its benefits in manufacturing technology, different arc modes and their individual characteristics. He also gave an insight on CMT process on steel and its benefits and practical applications in car body manufacturing. He also spent some time addressing the CMT process on aluminum and steel-aluminium hybrid joints. He concluded by throwing light upon Cladding process and characteristics.

The next topic presented was “Robotic automation for Arc welding” by Mr. J.V. Mohan and Mr. Raghu B.N. from CNC India. They briefed us upon the use of robots in welding, types of robots used for welding and possibilities in the industry. He discussed some of the myths and truths in regard of welding using robots, factors to be considered, modern features, system design for robotic welding. The speaker also briefed upon the expansion of robotic welding business from 1984 till date, share of arc welding among all robotic applications, areas of applications such as railways, ship building, defense, earth moving equipment, general fabrication.

The next presentation was presented by Mr. Vineet Agarwal on behalf of Mr. Rajeev Gupta representing Jindal Stainless Co. The topic of the presentation was "Importance of Stainless Steel Welding in development of Aesthetics for urban infrastructure". He spoke upon the benefits of stainless steel over other forms of steel. He also briefed upon the uses of stainless steel in various sectors in today's age.



The session was being chaired by Mr.B.K.Mishra, Director,Weldmen Synergic Pvt. Ltd.

First paper was presented by Mr.Sritharanandh G. & Rashmi Ranjan Mohapatra,Kemppi India Pvt. Ltd. on "Kemppi's Reduced Gap Technology Challenges Conventional Joint Design" in which advantages of reduced gap technology was discussed.By this technology there was a reduced groove angle of 20 degree by use of certain softwares which added to the efficiency and productivity of welding heavy metal structure. Its principle is that WisePenetration software maintains consistent arc power regardless of variation in the contact-tip-to-work distance while WiseFusion provides adaptive regulation that keep the arc focused and optimally short. To optimise usability and welding efficiency, using the solution with the A5 MIG Rail System 2500 is recommended.

Second paper was presented by Mr. Ratan Poddar, Consultant, Crescent Foundry Company Pvt. Ltd. on "Maintenance Welding of Steel" in which saving of material and capital was the main concern by repair and maintenance of the wearied away equipment. The different types of techniques were discussed for maintenance of equipments and their advantages. In the process of maintenance first metal detection is required to know the items with unknown specifications after which maintenance process of items is to be decided which involves Repair-Reclamation-Rebuilding. It's is done by joining cracks or fractures, welding stiffeners for strengthening, coating of surface against wear and fixing of war plates for surface protection. By this maintenance welding life of equipment is extended, capital is saved, saves time and saves spare parts. It is also a best field for entrepreneurs to start with and create self employment.

2.6 SEMINAR ON BUILDING SERVICES THROUGH INTELLIGENT NETWORK

VENUE: IPGME&R, SSKM Hospital, Kolkata

DATE: 4th February, 2018

State Electrical Engineers' Association West Bengal organized their 37th technical seminar on 'Building Services through Intelligent Network' on 4th February, 2018. The seminar was attended by ten students from IEM Kolkata consisting of students from mechanical as well as electrical branch. It was all started with lighting lamp ceremony along with the welcome address by President SEEAWB, Shri Rajarshi Ray and some of the dignitaries.

After their motivational talks, the technical session initiated which was very enlightening, thought provoking and interactive.



The speakers at the seminar

A brief overview of each technical session is given below:

First technical Session:

The first session was addressed by Prof. Amal Barman from IEST, Shibpur, who addressed us on LAN Architecture Design. The lecture basically focussed on LAN model, its protocols, topologies and Routing. LAN is high speed computer network that causes a relatively small geographical area to share data among devices and applications and users by using technologies like Ethernet and Wifi by surpassing the technology like ARCNET, Token ring, and Apple Talk. The protocols which are followed by LAN are based on TCP/IP protocol funded by the United States Department of Defence through DARPA. The standard for LLC is designated as IEEE 802.3 and some IEEE LAN standard specifications are 802.3 for Ethernet, 802.5 for token ring, and 802.11 for WLAN.

LAN Topologies: Basically these topologies are logical architectures to define the manner in which network devices are organized and those are bus, ring, star and tree but the actual may vary. The Bus topology is most widely used topology and Ring topology is bidirectional.

WLAN/Wifi is the one in which a user can connect to LAN through a wireless connection. The IEEE 802.11 specifies WLAN; which uses Ethernet protocol and CSMA/CA (carrier sense

multiple access with collision avoidance) for path sharing and include an encryption method, the Wired Equivalent Privacy algorithm.

Second technical Session:

This session was taken by Smt. Soumyashree Bandhopadhyay (Assistant Engineer PWD) on Design of Close and Remote Surveillance. Close and remote surveillance system is becoming one of the key factors of the security systems and being used today in different fields for crime prevention, industrial processes, traffic monitoring, transport safety. In this system, video cameras are used to transmit a signal to a limited set of monitors through different network topology considering network availability, flexibility and cost effectiveness. The evolution of surveillance system takes place from recording in magnetic tapes to IP based modern surveillance systems which eases the operation and increases management efficiency and reduced cost of maintenance. Important functions which should be kept in mind are reliability, redundancy, network recovery time, network bandwidth utilization, future expansion etc. to design IP network which can improve the quality of video, resolution, frame rate, transmission efficiency and with the introduction of multicast, QoS and PoE increase efficiency and flexibility.

Third technical Session:

It was given by Shri Subhabrata Gupta. Assistant Vice President, ABB India Ltd., on Smart Monitoring from Substation to Submains. Power control and automation in building began by microprocessor and technological advancements in the PLC(Process Logic Control). With the advent of IED, and SCADA the task has become more easier as it is able to control all existing electrical distribution system to MCV which can be further improved through power monitoring and automation due to which it will be able to meet the challenges of integrating into supply and and it will also reduce the challenges faced during monitoring more complex devices and electric load.

Fourth technical Session:

This talk was addressed by Shri Manoj Kumar, Sr. Manager- Technology, ZYXEL Technology India Pvt. Ltd. On Integrated Services in Buildings through GePON. GPON and GEPON (Gigabite P) which is an access method transported by optical fibre which rise point to multipoint. It consist of certain equipments like OLT centre to ONT's and other parts splitter that divides the signal. The advantages of PON is the ideal solution for stable network and reduces the number of losses. The point to multipoint connection between OLT and multiple ONU's is obtained using one or more passive branching devices in the fibre path.

FIFTH technical Session:

The last technical session was taken on the topic 'Energy and Operational Efficiency through Integrated Building Management System' by Shri Arkaraj Mukherjee, Manager, Eco Building, Schneider Electric. Building Automation comprises of the creation of an environment for the processes taking place within the building that provides optimal functionality and integration of the various systems and processes concerned. This is done with the help of

DDC(Direct Digital Control) panels. Each DDC panel is a standalone functional unit and continues to perform its functions even in the event of a network failure.

Energy can be optimized with the help of various inbuilt functions such as energy monitoring and chillers and condensers monitoring, automatic start of HVAC installations at the end of night cycles with many more methods can be used for energy optimization.

The seminar ended with the felicitation of the speakers and vote of thanks by the organisers.



The students during the seminar

2.7 Technical Lecture on Gas Phase Filtration using Chemical Filters

A technical talk was arranged on 1st of February by ISHRAE-KOLKATA CHAPTER on the topic gas phase filtration, generally termed as chemical filtration. The lecture was conducted by Mr. Sambuddha Sen (Sr. Sales Manager of Bry-Air). The event witnessed the presence of Mr. Utpal Biswas (Regional Director, ISHRAE Kolkata Chapter) and six students from IEM Kolkata attended the lecture.



The students along with Mr. Sambuddha Sen & Mr. Utpal Biswas

The topics of discussion were-

1. Types of contamination-1. Pollutants and gases such as NO_x, HF, SO_x.
2. Places near which this can be found such as sewage, garbage, industrial waste, etc.
3. Chemicals used to remove the pollutants such as potassium permanganate (KMnO₄), potassium Hydroxide (KOH), etc.
4. Methods to check chemical pollution- (a) Air quality analysis and (b) Real time electronic monitoring.
5. Classification of corrosion- G1, G2, G3 and GX based on the reactivity of Silver and Copper.
6. Process used for treatment are adsorption and chemisorption.
7. There are two types of filter structure available-(a) Granular and (b) Honeycomb. Granular structure are used where load is very high and are heavy in weight with more efficiency while Honeycomb structures are used where the load is less and are light in weight with more effective.

3. WORKSHOPS

3.1 Heat Load Calculation & Design workshop by ISHRAE IEM Student Chapter

From 20th to 22nd July, 2017 ISHRAE IEM Student Chapter, in association with ISHRAE Kolkata chapter organized a workshop on "Heat Load Calculation and HVAC Design basics " by the ISHRAE IEM students' chapter at the Management House of Institute of Engineering & Management.

The workshop continued for 3 days and later 2 days for presentation on a given problem based on the discussed topic was scheduled from 12th August .The honourable course speaker being **Mr Prabir Kumar Sen** and **Prof. Gunjan Kumar** being as course co-ordinator. It involved the dedicated participation of 31 Mechanical Engineering students from various colleges like I.E.M, Kalyani Government Engineering College, Assansol Engineering College

DAY 1

The event initiated with the inauguration ceremony on 20th July at 2:15PM in the seminar hall of IEM Management House. The presence of honourable guests like **Mr Prabir Kumar Sen**, the course speaker and CWC member of ISHRAE Kolkata Chapter, **Mr Utpal Biswas**, Regional Director of ISHRAE Kolkata Chapter and **Ms Nilanjana Mukherjee**, woman President of ISHRAE Kolkata Chapter along with **Prof. Tapabrata Bhattacharya**, the Head of the Department of Mechanical Engineering in IEM, **Prof. Tapas Kumar Dutta**, the Head of the Department of Electrical Engineering in IEM, **Prof. Dr. Arun Kumar Bar**, the Head of the Department of Basic Science and Humanities in IEM and **Prof. Prabir Kumar Das** made the ceremony an auspicious one.

Guest speakers were felicitated by the respective faculties of IEM present on the ceremony with flower bouquet. The opening speech was given by Mr. Utpal Biswas who addressed the dynamic achievements made by ISHRAE Kolkata Chapter. Ms Nilanjana Mukherjee enlightened the audience about the importance and future scopes of learning the topic (Heat Load and HVAC design). Mr. Tapabrata Bhattacharya delivered a speech on the colossal achievements made by Mr. P.K. Sen in HVAC industries. Prof. Gunjan Kumar, the faculty advisor of ISHRAE IEM Students' Chapter was requested to conclude the speech by addressing the uniqueness of the Workshop arranged.



(From the left): Prof. Tapabrata Bhattacharya, Prof. Prabir Kumar Das, Mr. Prabir Kumar Sen, Mr. Utpal Biswas, Prof. Tapas Kumar Dutta, Ms. Nilanjana Mukherjee, Prof. Dr. Arun Kumar Bar

After the speeches were over, there was a photo session where a group photo of all the guests, IEM faculties along with the participants of the Workshop was taken and then a tea session was organized.



The Group Photo session after the opening ceremony

At 3:30 PM, the lectures by Mr. P.K. Sen started as participants gathered in the Language Lab of IEM Management House. Mr. Utpal Biswas and Prof. Gunjan Kumar also attended the lecture as audience. First day the topic of lecture was basics of Air Conditioning systems. The lecture concluded at 5:15 PM and after that a brief question-answer session was held where the participants solved their queries. At 5:30 PM refreshments were given to all the participants.

DAY2

The next day, 21st July, the workshop started at 2 PM. Faculty advisor of IEM Student Chapter Prof Gunjan Kumar delivered a lecture on the topic Project Management and the perspective of Design Engineer in the first hour of the session. After that, there was a tea-break at 3 PM and the learning session resumed with Mr. P.K. Sen's lecture on basic psychometrics and heat load. Like the first day, the workshop for that day was concluded by a question-answer session followed by refreshments at 5:30 PM. However, the participants had to create teams of 4 members among themselves that day and submit their respective team information to Prof. Gunjan Kumar. The team was formed for giving the presentation on the given problems in August.



The participants along with Mr. Utpal Biswas and Prof. Gunjan Kumar attending the lecture.

Questions and Answer Session after the lectures

DAY 3

The last day, 22nd July, the workshop session initiated at 1:30 PM. Prof. Gunjan Kumar completed the remaining portion of his topic within 2:30 PM. After that, he organized a role-play session where every members of every team had to play the roles of different persons related to the Project Management and Designing (e.g. Client, Contractor, Design Engineer, Project Manager etc) . The participants broke their comfort zone and put up appreciable efforts accordingly.

The role-play session concluded at 3:15 PM and after the tea-break, Mr. P.K. Sen delivered his lectures on heat load calculation and selection of HPVC equipments. After the lectures were over, Mr. P.K. Sen was thanked by Prof. Gunjan Kumar for his immense contribution on teaching the students a whole new topic. Prof. Tapabrata Bhattacharya also thanked Mr. P.K. Sen and wished all the students a prosperous future. A final photo session was organized with participants along with the course speaker and faculties of IEM present. Overall, the success of the event set a new benchmark indeed for the ISHRAE IEM Student Chapter as well as ISHRAE Kolkata Chapter as it was the first time such workshop on HVAC was organized in a student chapter of Kolkata and received ample participations.



The group-photo session on last day

List of Participants:

Event Name-		WORKSHOP ON HEAT LOAD CALCULATION & HVAC DESIGN BASICS			
Organized by		ISHRAE Kolkata Chapter			
Co-ordinated		ISHRAE-IEM Student Chapter			
Venue		Language Lab, 3rd Floor, IEM Management House			
Schedule Date and Time		20th July to 22nd July, 2.00 PM to 5.30 PM			
SI No	Name	ISHRAE Membership Number	Student Chapter Name	Phone Number	Year of study
1	Shreyan Gupta	S16008980	Institute of Engineering & Management	9531741700	Fourth
2	Ramkrishna shee	S00023821	Institute of Engineering & Management	8670104126	Fourth
3	Shibaprasad Bhattacharya	S00023689	Institute of Engineering & Management	7278473859	Fourth
4	Anindya Khamaru	S00022250	Institute of Engineering & Management	7687870393	Fourth
5	IBRAK HOSSAIN	S00023697	Institute of Engineering & Management	9563021850	Fourth
6	Chetan anand	S00021107	Asansol Engineering College	7908368972	Third
7	abhay kumar	S16017867	Institute of Engineering & Management	7059875499	Fourth
8	SOURAV SARKAR	S00023652	Institute of Engineering & Management	9163227981	Fourth
9	KANOIJ GUHA THAKURTA	S00023695	Institute of Engineering & Management	8585898128	Fourth
10	Sagnik Maity	S00023656	Institute of Engineering & Management	9874611217	Fourth
11	Aasish jain	S00023654	Institute of Engineering & Management	7044308890	Fourth
12	Arnab Gupta	S00023687	Institute of Engineering & Management	9883095621	Fourth
13	Nilanajan Mandal	S17023462	Asansol Engineering College	9475133823	Third
14	KIRITI BHUSHAN KUMBHAKAR	S16014347	Asansol Engineering College	7739468533	Third
15	Debendra Nath Sarkar	S17023425	Asansol Engineering College	9614948723	Third

16	Rohan Lal Kshetry	S00023688	Institute of Engineering & Management	9932545557	Fourth
17	Mayukh sen	S00023664	Institute of Engineering & Management	9804172525	Fourth
18	Gaurav kumar	S16001928	Institute of Engineering & Management	8820207963	Fourth
19	Paritosh Mahto	S17023436	Asansol Engineering College	9798970706	Third
20	Riazul Haque	S16001956	Institute of Engineering & Management	8336022975	Fourth
21	ARNAB BANERJEE	S00026132	MCKV institute of engineering	+917797535866	Third
22	Subhasish Bera	S00022260	Institute of Engineering & Management	8017570129	Third
23	Sounak Roy	S00023794	Institute of Engineering & Management	8001975492	Fourth
24	SURAJDEV KUMAR	S00021098	Asansol Engineering College	9091451411	Fourth
25	Swagata Mukherjee	S00022332	Institute of Engineering & Management	8967011434	Third
26	Rishav Roy	S00025835	MCKV institute of engineering	8272992989	Third
27	JAYDEEP CHOWDHURY		Institute of Engineering & Management	7687894069	Fourth
28	Shounak Das	s16008918	Institute of Engineering & Management	8017049733	Third
29	Sujay Mukherjee	S00023756	Institute of Engineering & Management	8777354712	Fourth
30	SONAL KUMAR SINGH	S00023809	Institute of Engineering & Management	8282826395	Fourth
31	SANDEEP KUMAR YADAV	S00025579	MCKV institute of engineering	7003097238	Third
32	Debajyoti Pal	S17022200	Kalyani Govt. Engineering College	9038256858	Fourth
33	SAYAN SARKAR	S00026478	Institute of Engineering & Management	8981502840	Third
34	ANKIT RAJ	S16009013	Institute of Engineering & Management	7903992773	Fourth
35	Arabinda kumar mondal	S17023411	Asansol Engineering College	9563854630	Third
36	Swastik kumar singh	S00021090	Asansol Engineering College	8145265577	Fourth
37	Aman Mishra	S00021088	Asansol Engineering College	8509613627	Fourth

38	Narendra	S00021074	Asansol Engineering College	7797007873	Fourth
39	Mr. Ankit Kumar pandey	S17023456	Asansol Engineering College	9083377143	Third
40	Nitai Gope	26989	Asansol Engineering College	8759653169	Third
41	Danish Mahmood	S00026172	Haldia Institute of Engineering	8961804448	Fourth

. At the end of the workshop, the students were given a problem statement to make a case study on the HVAC design of an auditorium based on some given parameters.

An exam on the lecture topics followed by the case study presentation by the participants of the workshop was scheduled to be held on 12th August, under the banner of ISHRAE-IEM Student Chapter's annual flagship event "Taapmaan"

At 12:30 PM on that day, the participants had to sit for a 60 marks exam with 30 multiple choice questions. The exam came to an end at 1 PM.



The exam on heat load workshop being conducted

From 2 PM, the presentation of case study began. All shortlisted teams were present for the final ppt presentation. **Mr. P.K.Sen**, who delivered the lectures on heat load calculation, psychrometry and HVAC selection in the workshop, was present on that day as the main judge. Two distinguished alumni of IEM **Mr. Alomoy Banerjee** and **Mr. Nirabhra Mondal** were also invited as guest judges for that presentation event.



Nirabhra Mondal and Alomoy Banerjee as guest judges

The case study presentation event being conducted

All the four teams presented their case studies and heat load calculation with admirable efforts and dedication. At the end of each presentation, the participants were asked questions based on their presentation. Mr. P.K.Sen's precious comments and advice also cherished the participants about how to make their individual performance better.

After the event, the results of the examination and the presentation event were declared. All the participants present that day were awarded with "Certificate for completion of the workshop" for their appreciable performance in both exam and presentation. ISHRAE Kolkata Chapter's President Mr. Gautam Mukherjee was requested to give away the certificates to the fellow participants

However, there was arrangement for separate certificates for two of the best performances in case study presentation.

The team from Assansol Engineering College consisting of Aman Mishra, Narendra and



Swastik Kr Singh won the first place for their stellar presentation as well as out of the box thinking. The team of **Subhasish Bera (IEM)**, **Shounak Das (IEM)**, **Swagata Mukherjee (IEM)** and **Debajyoti Pal (Kalyani Govt. Engineering College)** became the runners up



Shounak Das, Swagata Mukherjee, Debajyoti Pal and Subhasish Bera receiving the runners up certificate from Mr. Shubhasish Dasgupta



Aman Mishra, Narendra and Swastik Kr Singh from Assansol Engineering College receiving the winners' certificates from Mr. Shubhasish Dasgupta

The whole event ended on high notes where every participant gained many things to learn and experience which undoubtedly would cherish them in near future.

4. INTERNAL EVENTS

4.1 TAAPMAAN 2017

The annual flagship event of ISHRAE-IEM Student Chapter “Taapmaan” was organized with pomp and grandeur like last year. This year, two days were scheduled for conducting different events under the banner of Taapmaan. The events were

- Dr. B.B.Ghosh Memorial HVAC Quiz Competition
- HVAC Design and Case Study Presentation
- CWC Installation
- Technical Lecture



The event met with a mass participation of students from both Mechanical and Electrical Engineering branch and was highly acclaimed by the respected guest delegates. **Official poster for Taapmaan 2017**

Dr. B.B.Ghosh Memorial HVAC Quiz Competition

The annual HVAC quiz competition by ISHRAE-IEM Student Chapter was known as “Taapmaan” in previous year but from this year on, it will be known as “**Dr. B.B.Ghosh Memorial HVAC Quiz Competition**” as a homage to the beloved Professor **Dr. Bankim Bihari Ghosh** who left for heavenly abode in late 2016.

The quiz was organized on **11th August** from 1:45PM to 6:00PM. The prelims of the quiz competition took place from 1:45PM to 2:15PM .

The prelims was followed by the finals which took place in Dr. APJ Abdul Kalam seminar hall in the presence of **Prof. Tapabrata Bhattacharya** (HOD Mechanical), **Prof. Tapas Kumar Dutta** (HOD, Electrical), **Prof. Arun Kumar Bar** (HOD ,Basic Science And Humanities) and chief guest **Mr. Utpal Biswas** (Regional Director-East ,ISHRAE KOLKATA), **Prof. Prabir Kumar Das**.



(From left): Prof. Prabir Kumar Das, Prof. Arun Kumar Bar, Mr. Utpal Biswas, Prof. Tapas Kumar Dutta

The finals started with enlightening speeches from our HODs in remembrance of our most beloved Prof. Dr. Bankim Bihari Ghosh. After that our chief guest Mr. Utpal Biswas motivated the students of ISHRAE IEM Student's Chapter with his encouraging words.

There were total ninety teams in the prelims, out of which only six teams got selected for the finals.

The finalists were:-

1. Sagnik Maity and Riazul Hoque
2. Shubham Kumar and Akanishtha Banerjee
3. Dhanraj Kumar Sharma and Ghulam Moinuddin
4. Swaraj Samanta and Shibaprasad Bhattacharya
5. Gourab De and Arpan Sinha

6. Abhishek Kumar and Ridhi Lakhota





Mr. Debdut Bosu and **Mr. Sourav Sarkar**, the President and Secretary of ISHRAE-IEM Student Chapter respectively, were the quizmasters. The quiz was an eye opener for the students who participated in it.

Mr. Utpal Biswas and two distinguished alumni of IEM from 2017 pass-out batch Mr. Nirabhra Mondal (former President of ISHRAE-IEM Student Chapter) and Mr. Soumik Chakraborty (runner up in A-Quest 2017) were invited as wise guys

The wise guys: Mr. Nirabhra Mondal and Mr. Soumik Chakraborty



For the first time the quiz was conducted with the help of software developed by our own college student of IT 4th year **Mr. Shashwat Vikram**.



Mr. Shashwat Vikram being felicitated by Mr. Utpal Biswas

The winners of the quiz were:-

1st :Mr. Sagnik Maity and Mr. Riazul Hoque

2nd :Mr. Shubham Kumar and Mr. Akanishtha Banerjee

3rd :Mr. Dhanraj Kumar Sharma and Mr. Ghulam Moinuddin

The winners were felicitated by Mr. Utpal Biswas.

The winners of online quiz **Mr. Md. Sakib Rahi** and **Mr. Sagnik Maity** were also felicitated

After that Mr. Utpal Biswas applauded the great effort put on by our students members.

The event came to a conclusion with inspiring words by our faculty in-charge Prof. Gunjan Kumar.

4.2 CWC INSTALLATION



President, Treasurer and Secretary taking oath



The newly selected CWC team

The annual cwc installation ISHRAE IEM student chapter was organised on 12th August 2017 from 3 p.m. The installation began with a video exhibiting the glories of ISHRAE from it's very inception to it's phenomenal journey till date.

The grandstand was further adorned by our remarkable guests for the event, **Mr. Subhashish Dasgupta** (Zonal head ishrae student activity), **Mr. Gautam Mukherjee** (President ishrae Kolkata), **Mr. Prabir Kumar Sen** (senior member, ishrae Kolkata), **Prof. Tapabhrata Bhattacharya** (HOD Mechanical engineering), **Prof. Tapas Kumar Dutta** (HOD Electrical Engineering), **Prof. Arun Kumar Bar** (HOD Basic science and humanity). The onlookers were addressed by an enthusiastic speech by Mr. Subhashish Dasgupta for the post lunch session.

Mr. Gautam Mukherjee did away with the letter of appreciation to the previous CWC Members and they were also thanked for their dedication and efforts to keep the society ahead in all fronts.

Prof. Gunjan Kumar then announced the names of the newly selected CWC for the year 2017-18. **Mr. Debdut Bosu** was elected the new President with **Mr. Sourav Sarkar** and **Mr. Gaurav Kumar Jha** as the new secretary and Treasurer respectively. They took oath to abide by their assigned responsibilities and give their fullest in best possible manner.

The other CWC Members included **Ms. Sohini Banik**, **Mr. Rohan Lal Kshetry**, **Mr. Aman Panesar**, **Mr. Abu Fazal**, **Mr. Uttaran Sarkar** and **Mr. Shounak Das**. It was the first time a girl candidate made into the CWC. Ms. **Sohini Banik** is also the President of the Girls' working committee with Ms. **Shrestha Sadhya**, **Ms. Sidra Fakri**, **Ms. Meghna Saha** and **Ms. Ridhi Lakhotiya** as the committee members. The new CWC members were further propelled by Mr. Gautam Mukherjee.

Later the faculty Advisor of ISHRAE IEM student chapter Prof. Gunjan Kumar announced the names of the new girls' working committee members. He then announced the names of the Class Spokespersons for different classes. **Mr. Abhishek Bhattacharjee (ME - 4th year)**, **Mr. Subhrashish Pal (EE-4th year)**, **Mr. MD. Sakib Rahi (ME - 3rd year)**, **Mr. Jyotirmaya Jyoti (EE-3rd year)**, **Mr. Harsh K. Shah (ME-2nd year)** and **Ms. Gayatri (EE-2nd year)** were selected as the spokesperson for their respective classes.



New GWC and CS of ISHRAE IEM Student Chapter

Further, Mr. Alomoy Banerjee (President for the year 2015-16) and Nirabhro Mondal (President for the year 2016-17) were honored for their phenomenal past contributions to the society.

4.3 INNOVACION 2018

ISHRAE-IEM Students' Chapter sponsored and funded two models which were presented in the INNOVARE event of INNOVACION 2018- The Annual Tech-Fest of IEM Kolkata. The models were presented by the students of the Mechanical Engineering Department.

The two models were :

- 1) Bladeless Fan
- 2) Automatic Two Way Hack- Saw



The students with their model : Automatic two way Hack Saw



The model of Bladeless Fan

5. ZONAL EVENTS

5.1 RACON 2017

RACON is one of the biggest HVAC (Heating, Ventilation, and Air-conditioning) conferences in eastern part of India which enriches building owners, architects, designers, young engineers, students on the latest trends in the HVAC&R industry. It was organised on 16th and 17th December 2017 at Swissotel, Newtown. Like every year, the success story continued this year too with the event witnessing student as well as professional delegates from across the globe. The two-day conference covered diverse aspects of Air-conditioning, Refrigeration Ventilation and related Industries. Eminent speakers from the HVAC&R industry (from all over India & Abroad) presented their papers on most energy efficient technology of HVAC&R system.

They all put forward their views on various aspects of the mechanical industry with its challenges and advancements.

RACON had organised a technical presentation competition based on **HVAC System Design & Heat Load Calculation for a Multi- Storeyed Complex** for the college students. There were various entries from various colleges. Student members of ISHRAE-IEM Student chapter too took part in this competition.

The teams from IEM were:

- TEAM 1 : 1. Sumit Kumar (ME-4TH YEAR)
- 2. Souram Guha (ME-4TH YEAR)
- 3. Anindya Khamuru (ME-4TH YEAR)
- 4. Ridhi Lakhotia (EE-3RD YEAR)
- TEAM 2 : 1. Sourav Sarkar (ME-4TH YEAR)
- 2. Aman Sultania (ME-4TH YEAR)
- 3. Gaurav Kumar Jha (ME-3RD YEAR)
- 4. Abhishek Kumar (ME-3RD YEAR)
- TEAM 3 : 1. Shounak Das (ME-3RD YEAR)
- 2. Md.Sakib Rahi (ME-3RD YEAR)
- 3. Shubham Barnwal (ME-3RD YEAR)
- 4. Ramesh Kumar Karthick (ME-2ND YEAR)

Only the best posters were selected for the final round and they got the opportunity to present it on the second day. Three teams from IEM were selected for the final round.

The three teams got to attend the event free of cost. There was arrangement for lunch and tea for the delegates attending the event.

The post lunch session of the second day was the presentation competition. All the three teams presented their posters and they were followed up by the questions from the judges

as well as audiences.

All the three presentation were highly praised by everyone and IEM bagged two out of three prizes. The team of **Shounak Das, Md.Sakib Rahi, Shubham Barnwal & Ramesh KumarKarthick** secured the first position and the team of **Sourav Sarkar, Aman Sultania, GauravKumar Jha & Abhishek Kumar** secured the second position.

Prof. Gunjan Kumar (Student Activities Chair, ISHRAE Kolkata & Faculty Advisor of ISHRAE-IEM) was a part of organising committee of RACON-2017



Prof. Gunjan Kumar along with Prof. Tapobrata Bhattacharya (HOD, Mechanical,IEM)



6. NATIONAL EVENTS

6.1 ISPG 2017

ISPG (ISHRAE Student Project Grant) is a grant of funds to a full-time graduate student of ISHRAE Student Chapters in HVAC&R related technologies. It is awarded once each year for use in the academic year Project. Multiple awards (typically 8-12) are made each year in the amount of Rs. 40,000/ award. The goal of the Grant-In-Aid program is to encourage outstanding graduate students to become involved in HVAC&R research and establish careers that include active engagement within and continued contributions to Society.

S.No.	MEMBERS	TOPIC
TEAM 1	1.Rajdeep De (Leader) 2.Raj Kamal 3. Rahul Kumar 4. Subhrasish Pal	“Evaporative cooling system with dessicant dehumidification for road transportation of fruits & vegetables.”
TEAM 2	1.Rohan Lal Kshetry (Leader) 2.Riazul Hoque 3.Sagnik Maity 4.Ritabrata Dalui	“Stenocara Water Harvester.”
TEAM 3	1. Md.Sakib Rahi (Leader) 2 .Gaurav Kumar Jha 3. Subhashish Bera 4.Ridhi Lakhotia	“Fabrication & Testing of eco-friendly & sustainable multi-purpose liquid chiller .”
TEAM 4	1.Saurav Kumar (Leader) 2.Shounak Das 3.Prabhat Kumar 4.Abhishek Kumar	“Electric wall heater featuring automatic two stage heating.”
TEAM 5	1.Sumit Kumar (Leader) 2.Swaraj Samanta 3.Abhishek Bhattacharjee 4.Md.Sakib Rahi	“Development of portable refrigerator for prevention of spoilage of unpacked food chain using acoustic effect.”

TEAM 6	1.Mayukh Sen (Leader) 2.Jaydeep Chowdhury 3.Preveen Ranjan 4.Dhruba Mitra	“ Development of prototype model for geothermal & radiant cooling”
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Institute of Engineering & Management has always been an active member of the **ISHRAE Kolkata chapter** apart from being a force to reckon with at an All-India stage. This time, our institution has successfully submitted 6 projects for the ISHRAE Student Project Grant (ISPG). Details of which are given as under:

Finally, out of the fourteen projects from all over India, and three projects from eastern region, two projects were selected from IEM Kolkata. They are as follows :

S.No.	MEMBERS	TOPIC	FUNDING RECEIVED
TEAM 1	1.Rajdeep De (Leader) 2.Raj Kamal 3. Rahul Kumar 4. Subhrasish Pal	“Evaporative cooling system with dessicant dehumidification for road transportation of fruits & vegetables.”	45,000 INR
TEAM 2	1.Rohan Lal Kshetry (Leader) 2.Riazul Hoque 3.Sagnik Maity 4.Ritabrata Dalui	“Stenocara Water Harvester.”	50,000 INR

6.2 ISHRAE JOB JUNCTION 2017

ISHRAE Job Junction is an initiative by ISHRAE to provide job opportunities to fresh graduate engineers & diploma holders (who are ISHRAE student members) in the HVAC&R industry and helping industries to recruit right personnel. Launched in the year 2015, the third season of ISHRAE Job Junction-2017, proved to be a spectacular, landmark event and was conducted in no less a scale this year. This “Maha Kumbh of Jobs”, spread across the whole nation, was conducted in four separate zones – North, South, East and West; and witnessed a number of big names as participants. The entire process was conducted in two stages – i) Online test and ii) Final execution. The common online test for all the registered candidates was conducted on 14th October, 2017 for the East Zone.

ISHRAE Job Junction 2017- East Zone was held from **6th – 9th November 2017** at **Institute of Engineering & Management (IEM), Gurukul campus, Salt Lake, Kolkata**. This four day mega

event witnessed the participation of 125 students (out of which, 101 appeared on the event dates) from all across the eastern region Top Institutes like:

1. Indian Institute of Engineering, Science and Technology (IIST), Shibpur
2. NIT Agartala
3. Jadavpur University
4. Asansol Engineering College
5. Kalyani Government Engineering College
6. Institute of Engineering & Management, Kolkata
7. MCKV Institute of Engineering
8. Haldia Institute of Technology
9. C.V. Raman Engineering College, Bhubaneswar

The Job Junction was inaugurated on 6th November, 2017 at 10:30 A.M. in IEM, Science Auditorium; where the participating students were introduced to the concept of the Job Junction and its rules. The session was graced by eminent personalities like Mr. Utpal Biswas (Regional Director, ISHRAE Kolkata Chapter), Mr. Vishal Kapoor (National President ISHRAE), Mr. Shubhasish Dasgupta (Convener ISHRAE Job Junction), Mr. Gautam Mukherjee (President ISHRAE Kolkata), Mr. Saswat Kumar (Manager – Zonal HR, Voltas Limited), Mr. Tanmoy Roy (HR-Paharpur Cooling Tower), Mr. A.K. Nayak (Principal IEM), Mrs. Gopa Goswami (Director of Corporate Relations for IEM) on the dais. Also other Industry delegates, ISHRAE members and Faculty In charge of various



ISHRAE JOB JUNCTION – 2017 Inauguration



ISHRAE-IEM President felicitating Mr.Vishal Kapoor (National President ISHRAE)

ISHRAE Kolkata chapter made every possible effort to ensure participation of **Major recruiters like: Paharpur Cooling Tower, Blue Star, Voltas Limited, Daikin Air Conditioning India Pvt. Ltd., Sterling & Wilson, Meho HCP Air Systems Pvt. Ltd., Grundfos Pumps Pvt. Ltd., Suburban Industrial Works, GP Spira Duct Pvt. Ltd., ELM Enterprises Pvt. Ltd., Spectrum Filtration Pvt. Ltd., Lloyd Insulation India Ltd., Zamil Airconditioners** These companies were spread out across the four days in a schedule that was convenient for both the participating students and the organizers. Each student was allowed to sit for atleast three companies based on their individual choice and preferences. These preferences had been collected by the organizers from the students prior to the event dates via Google Forms. The bulk load of data was then analyzed and sorted out into a smooth and convenient list based on the students' preferences and the companies' eligibility criteria.

A number of distinguished ISHRAE officials were present during the execution of the Job Junction. A few of them have been mentioned below.

1. Mr. Utpal Biswas (Regional Director, ISHRAE Kolkata Chapter)
2. Mr. Vishal Kapoor (National President ISHRAE)
3. Mr. Gautam Mukherjee (President, ISHRAE Kolkata Chapter)
4. Mr. Subhasis Dasgupta (Convener ISHRAE Job Junction)
5. Ms. Nilanjana Mukherjee (ISHRAE CWC member)
6. Mr. Gunjan Kumar (ISHRAE CWC member)
7. Mr. Suvanjan Bhattacharya (ISHRAE CWC member)



Mr. Utpal Biswas (Regional Director ISHRAE Kolkata)





Delegates From DAIKIN Airconditioning India pvt. Ltd

COMPANY NAME	REMARKS	NO. OF SELECTIONS	NAMES OF SELECTED CANDIDATES
55			
Paharpur Cooling Tower	Confirmed with offer letter	3	Debdut Bosu Dyuman Das Sagnik Maity
Voltas Ltd	Confirmed with offer letter	1	Akanishtha Banerjee
Sterling & Wilson	Confirmed with offer letter	2	Aman Sultania Kanouj Guha Thakurta
Meho Hcp Air Systems Pvt. Ltd.	Confirmation will be announced shortly	Pending	
GP Spira Duct Pvt. Ltd.	Yet to recieve any confirmation	Pending	
Daikin Airconditioning India Pvt. Ltd.	Confirmed with offer letter.	1	Sourav Sarkar

Grundfos Pumps India Ltd.	Yet to recieve any confirmation	Pending			
Suburban Industrial Works	Yet to recieve any confirmation	Pending			
Lloyd Insulation India Ltd.	Yet to recieve any confirmation	Pending			
Blue Star Ltd.	Confirmed with offer letter	1	Sourav Sarkar		
ELM Enterprises Ltd.	Yet to recieve any confirmation	Pending			
Zamil Airconditioners	Confirmed with offer letter	3	Sumit Kumar Mayukh Sen Shreyan Gupta		
		TOTAL (UPTO NOW)	11		

East zone best practice –

- Live Minute by Minute Updates.
- Live Comment box.
- Employers Feedback form .
- Volunteer certificate .
- Video Feedback from the Employers.
- Well appreciated reception and hospitality of IJJ 2017 Execution Team

Remarks:

1. IEM student successfully enters in big name of HVAC like **Voltas Ltd, Zamil Airconditioners, Daikin, Paharpur Cooling Tower, Sterling & Wilson, Blue Star Ltd** by outperforming other Institute of East zone.
2. IJJ 2017, had provided a big platform of IEM advocacy at national platform.
3. IJJ 2017, also capture the east zone student attention about IEM professional execution of event and grooming of students for job market.
4. All participating company, Institute, Students and ISHRAE Kolkata appreciated our effort with their positive feedback.

6.3 aQUEST 2018

aQuest, The Ultimate Engineering Face Off, is the season where the seeds of the upcoming year of ISHRAE-IEM are sown. It is the mastermind of ISHRAE (The Indian Society of Heating, Refrigerating and Air Conditioning Engineers) to introduce Engineering students to the HVAC&R industry, and to encourage them to choose it as a career path.

The event was graced by the presence of Mr. Vishal Kapoor (National President ISHRAE), Mr. Utpal Biswas (Regional Director, ISHRAE Kolkata Chapter), Mr. Subhajit Dasgupta, Mr. Gautam Mukherjee (President, ISHRAE Kolkata Chapter), Ms. Nilanjana Mukherjee (ISHRAE CWC Member), Mr. Gunjan Kumar (ISHRAE CWC Member), Mr. Suvanjan Bhattacharya (ISHRAE CWC Member) and students and faculties from various colleges.



Mr. Vishal Kapoor, National President ISHRAE



Mr. Vishal Kapoor (left) with Mr. Subhajit date



Mr. Utpal Biswas (Right) & Mr. Gautam Mukherjee

Ms. Nilanjana Mukherjee

QUARTER- FINALS

With many hopes in heart and eyes full of passion, the young engineering aspirants after giving a testimony of their technical skills, Seventeen teams from IEM were selected for the first phase i.e. Zonal quarterfinals prelims test at Rabindra-Tirtha in Kolkata on 17th January 2018. Out of these seventeen, three teams from IEM out of the overall six selected teams cleared the prelims test and got an opportunity to play the Quarter-Finals. These teams being, team of Mr. Sourav Sarkar & Mr. Aman Sultania, Mr. Swaraj Samanta and Mr. Gaurav Kumar Jha and Mr. Saurav Kumar & Mr. Ramesh Kr. Karthick. The pattern of Quarter-finals was completely different from the pre-existing pattern of aQuest in the previous years. It consisted of five rounds. The rounds were as follows :

Round 1 : 24 HVAC questions with 30 seconds per question.

Round 2 : 12 General Knowledge Questions with one minute per question.

Round 3 : Rapid fire round, 12 HVAC questions with 20 seconds per question.

Round 4 : Audio-Visual Round, 6 Questions (3 HVAC+3 GK).

Round 5 : 6 HVAC questions.

The winning team was that of Mr. Saurav Kumar & Mr. Ramesh Kr. Karthick from IEM, and the Second Runners-Up team was that of Mr. Swaraj Samanta and Mr. Gaurav Kumar Jha. The team of Mr. Sourav Sarkar & Mr. Aman Sultania put up a brilliant show and secured the fourth position.



The Winning Team : Saurav Kumar & RK Karthick**2nd Runners-Up: Gaurav Jha & Swaraj Samanta****The participant teams during the prelims test**

SEMI- FINALS

After the victory at Zonal platform, team IEM moved on for the semi finals of aQuest 2017 on 18th January 2018 at Rabindra-Tirtha in Kolkata. The top 2 teams of Quarterfinals got direct entry on the stage for the semi finals, while the rest of the quarterfinal qualifiers along with the other eligible teams had to sit for a wild card test, out of which, two teams were selected on the podium. The team of Mr. Sagnik Maity & Mr. Riazul Hoque and the team of Mr. Sourav Sarkar & Mr. Aman Sultania cleared the wild card test and got an opportunity to play the Quiz on the Stage. The pattern of Semi-Finals was, answering ten questions from ten different categories, all related to HVAC&R field. The teams got to choose the order of questions as well as the level of difficulty between level 1 to 4; level 1 being the easiest and least scoring (5 points) and level 4 being the hardest and most scoring(20 points).

Each team got 3 life lines, namely 'Ask a friend in the audience' (Which allows a team to ask for a friend's help), 'Ask a wise guy' (Wise guys being the industry spearheads representing the grandeur of ISHRAE), and 'Double Take' (Which allows a team to select two answers for the same question) and a bonus life line which is the ability to revive any of these life-lines once all three of them exhausted and the team has crossed the 75 points. The most enticing rule however is the option 'Double or Half', which a team can call for only once throughout the quiz and has to call during the selection of level. If a team gets a 'Double or Half' question right, 20 points are added to the team's score and then doubled; getting it wrong however leads to losing half of the team's existing points. The team with the most points standing wins the title.

The team of Mr. Sagnik Maity & Mr. Riazul Hoque were the winners and directly qualified for finals. The team of Mr. Sourav Sarkar & Mr. Aman Sultania were the Runners-Up and they too qualified directly for the finals directly. The winning team received a cash prize of 15,000 INR and the Runners-Up received a cash prize of 10,000 INR. The team of Mr. Saurav



The Winners: Sagnik Maity & Riazul Hoque Sultania



The Runners-Up : Sourav Sarkar & Aman

Kumar & Mr. Ramesh Kr. Karthick secured the fourth position. All the teams that got an opportunity to play the semi-finals are eligible for the wild-card test of the finals.

The Quiz proved to be special this time as it involved audience participation as well. In the Quarter Finals the audience were allowed to play the quiz along with the participants and the response from the audience was commendable. Meanwhile, the cultural dance and vocal singing performances refreshed the environment.



A student from audience receiving token of appreciation



Students showcasing their talents

SOME GLIMPSES OF THE EVENT :



6.4 NSDC 2017

National student design competition (NSDC) is a platform which gives an opportunity to the students to exhibit their design skills. NSDC 2017 constituted of the problem statement given as:

Designing Air Conditioning System for a 3 Screen Multiplex for Better Indoor Air Quality & Energy Efficiencies.

- 3 Screen Multiplex having total seating capacity of 300,300 & 200.
- Standard Luxury Push Chairs having black and lumber support
- Lobby having Ticketing area, Concession area, Toilets, Catering.
- Moulded PU Foam with Fabrics & standard trims & finishes
- Rockwool Dacron Acoustics Finally covered with Fabric Curtains on walls
- Suitable LED Lightings
- Carpeted Flooring & Acoustically Designed Ceilings as per NC Criteria

The HVAC System Selection and Design for theatre shall address the following major goals :

- Designing complete energy efficient HVAC Systems with all important sub systems.
- Assuming better IAQ measures undertaken to address risks of Diseases
- Optimising fresh air loads & energy efficiencies.

Six teams from IEM Kolkata, made submission for the same. The teams are as follows :

S.No.	NAME	YEAR	DEPT
TEAM 1	Gaurav Kumar Jha	3rd	ME
	Shounak Das	3rd	ME
	Shubham Barnwal	3rd	ME
TEAM 2	Rohan Lal Kshetry	4th	ME
	Riazul Hoque	4th	ME
	Sagnik Maity	4th	ME
TEAM 3	Debdut Bosu	4th	ME
	Abhishek Bhattacharjee	4th	ME
	Sourav Sarkar	4th	ME
TEAM 4	Ridhi Lakhotia	3rd	EE
	Praveen Ranjan	4th	ME
	Mayukh Sen	4th	ME
TEAM 5	Aman Panesar	3rd	ME
	Shourya Sirsha Mondal	3rd	ME
	SUBHRASISH PAL		EE
TEAM 6	Abu Fazal	3rd	EE
	MOHIT KUMAR	4th	ME
	ABHISHEK KUMAR	3rd	ME

The results of NSDC 2017 are yet to be declared.

7. OTHER EVENTS

7.1 WOMEN IN ISHRAE-REGIONAL MEET

ISHRAE Kolkata saw its first Regional Women's Meet at The Sonnet Hotel on 28th of April 2017. The newly formed Women's Wing is a dedicated forum for the Women Members working in the HVAC&R and MEP field. This forum aims to give a platform to the women in ISHRAE and utilise its potential for the development of the society



The entire team attending the Regional Meet at The Sonnet

The motives of this initiative are :

- 1) To encourage women to join the HVAC&R field.
- 2) To encourage recruitment & retention of women in the industry.
- 3) To provide a platform for professional development overcoming environmental and social limitations.
- 4) To bring together all women and share their experiences and knowledge and support each other towards growth in the industry.
- 5) To guide women into taking up challenging roles with success.

The objectives of the initiative are :

- 1) To recognize achievers in the industry.
- 2) Involving women in Technical Committees for work in Research / Publications / Concept / Blog writings.
- 3) Workshops on professional skills development.
- 4) Technical as well as Pep Talks by women in the industry.
- 5) Networking Meets.

The meet began with Ms. Nilanjana Mukherjee, the Zonal Chairperson of Women's Committee of ISHRAE in East Zone introducing the three beautiful personalities who were the speakers for the evening. The first one was Ms. Nivedita Jadhav, the National Women's Chair gave a briefing on ISHRAE, its ambitions for the near future, its objectives, various job junctions, project grants(which are now made available for the post-graduate students also) and ISHRAE Institute of Excellence.

The second one was Ms. Anuradha Rathod, a very successful landscape architect, shared with everyone her journey of becoming an entrepreneur and suggested the basic components and requirements for balancing personal and work life.

The third one was Ms. Sanchita, an eminent position holder in the prestigious multinational engineering, HVAC, air conditioning, and refrigeration company of voltas. She also elaborated on work life and personal life balance and also mentioned about certain difficulties faced in her career because of her gender.

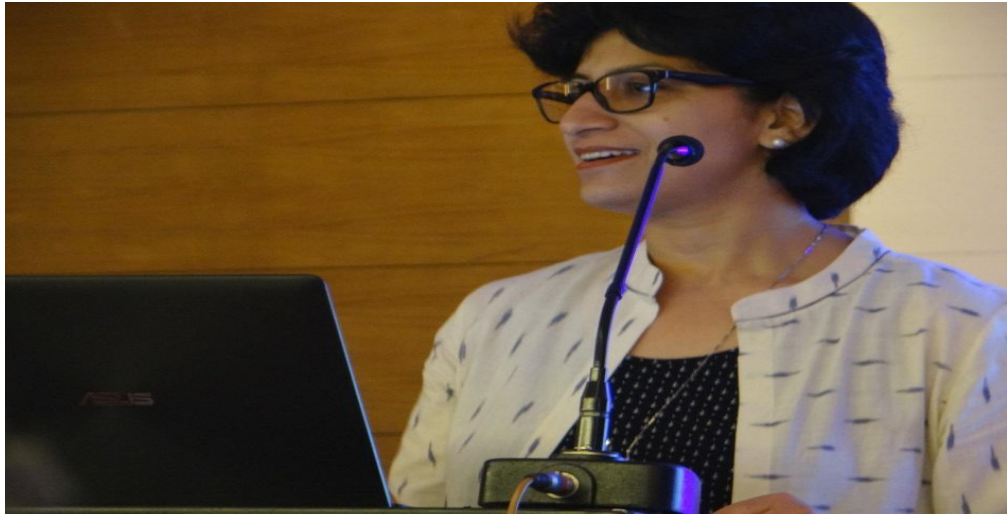
This was followed by one to one interaction with the rest of the attendees, who comprised of women from various working background. From aspiring engineers to working mothers, from mechanical engineers to architects. And various problems were discussed and suggestions were passed.



Representatives of ISHRAE-IEM at the Meet

The newly formed Girls' Working Committee of ISHRAE IEM Students' Chapter comprising of Ms. Sohini Banik-GWC President, Ms. Sidra Fakhri and Ms. Meghna Saha also attended the meet and represented ISHRAE-IEM in the forum. Ms. Meghna Saha was also the photographer of the event. They were accompanied by a faculty from IEM, Mrs. Rimjhim Majumdar and a first year student, Ms. Gayatri Singh.

The event ended on a very high note where everyone shared the same thought of women being an integral part of the HVAC&R industry and their encouragement. This was followed by high tea session.



Ms. Anuradha Rathode giving a speech about work and personal life balance



Ms. Sanchita telling about various problems faced by women in the HVAC&R industry



Ms. Nivedita briefing on various ISHRAE programmes



Meghna Saha, the photographer of the event being felicitated by Ms. Nivedita, National chair of Women's Wing in ISHRAE

7.2 ISHRAE STUDENT DAY

Department of Mechanical Engineering of MCKV Institute of Engineering in collaboration with ISHRAE Kolkata chapter organised a technical quiz (Summer Student Quiz - 2017) and E-Poster Competition on 24th August, 2017.

The quiz covered diverse aspects of Thermal Engineering (Air-conditioning, Refrigeration, Ventilation, Thermodynamics and Fluid Mechanics, heat transfer, Internal Combustion engine and Power plant).

Topic for E-Poster competition : Green Energy Engineering: A green way for the future.

There was great participation from students of IEM Kolkata and the winners of the events from IEM are as follows :

S.No.	Name of Student	Event	Position
1.(TEAM)	Akanishtha Banerjee (ME 4 TH YEAR)	Quiz	First
	Shubham Kumar (ME 4 TH YEAR)		
2.	Md. Sakib Rahi (ME 3 RD YEAR)	E-Poster	First
3.	Rajdeep De (ME 4 TH YEAR)	E-Poster	Third

4.	Shounak Das (ME 3 RD YEAR)	E-Poster	Fourth
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The winners along with Prof. Gunjan Kumar, Prof. Suvanjan Bhattacharya, Mr.Subhashish Dasgupta & Mr.Utpal Biswas at ISHRAE Student Day.

7.3 SIGNING OF MOU

It was a very proud moment for IEM Kolkata when a Memorandum of Understanding was realized between Indian Society for Heating Refrigerating & Air Conditioning Engineers Kolkata Chapter called as ISHRAE- Kolkata And Institute of Engineering & Management (IEM), KOLKATA.

THE OBJECTIVES OF THE MOU WERE

- Active collaboration between ISHRAE and IEM to establish an HVAC Showcase in the College
- Help the student community to have updated information on HVAC&R techniques and help them in placement
- Create awareness of careers available in the HVAC&R sector of the Industry leading to job placements in the Industry

The MOU was signed by the office bearers of ISHRAE Kolkata & IEM Kolkata in the presence of Prof. Tapobrata Bhattacharya (HOD, Mechanical Dept., IEM Kolkata) and Prof. Gunjan Kumar (Student Activities Chair, ISHRAE Kolkata & Faculty Advisor, ISHRAE-IEM)



Mr. Gautam Mukherjee (President, ISHRAE Kolkata) & Mr. Amlan Kusum Nayak (Principal, IEM)-(left)



Mr. Gautam Mukherjee & Mr. Shubhashish Dasgupta (ISHRAE Kolkata)

7.4. AICTE-ISHRAE REFRESHER COURSE IN R&AC

The objective of this AICTE-ISHRAE Faculty Training Program was to provide the opportunity for young faculty members to enrich their knowledge in the field of Refrigeration and Air conditioning. This programme covered the ISHRAE Developed syllabus for Refrigeration and Air conditioning Course which will cover the latest development in the field and the speakers were from HVAC & R Industries. A Certificate for the completion of course was jointly issued by AICTE and ISHRAE with a tag “ISHRAE Certified Faculty in HVAC&R field”.

1) Prof. Gunjan Kumar (Faculty-Advisor of ISHRAE-IEM Students' Chapter) was invited to attend AICTE-ISHRAE Refresher Course in R&AC by Chennai Chapter during Dec 4-8, 2017.



Prof. Gunjan Kumar receiving ISHRAE AICTE certified faculty certificate for HVAC



Prof. Gunjan Kumar visited Danfoss during ISHRAE AICTE certified HVAC faculty refresher courses

2) Prof. Sovan Ray & Prof. Sanjay Mondal of IEM Kolkata were invited to attend AICTE-ISHRAE Refresher Course in R&AC at CV Raman College of Engineering during June 19th to June 23rd, 2017.

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