



**ISHRAE**  
Thane Chapter

## **DON BOSCO INSTITUTE OF TECHNOLOGY**

**AICTE APPROVED, AFFILIATED TO MUMBAI UNIVERSITY,**

**ISO 9001:2015, NAAC ACCREDITED WITH B++ GRADE**

## **DEPARTMENT OF MECHANICAL ENGINEERING**

### **ISHRAE THANE DBIT STUDENT CHAPTER**

**SUMMARY REPORT  
ACADEMIC YEAR 2021-2022**

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## 1.0 INTRODUCTION

### **1.1 About ISHRAE**

The Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE), was founded in 1981 at New Delhi by a group of eminent HVAC&R professionals. ISHRAE today has over 28,780 HVAC & R professionals and Student-members. ISHRAE operates from over 42 Chapters and sub Chapters spread all over India, with HQ in Delhi.

It is led by a team of elected officers, who are members of the Society, working on a voluntary basis, and collectively called the Board of Governors.

### **1.2 ISHRAE Objectives**

- Advancement of the Arts and Sciences of Heating, Ventilation, Air Conditioning and Refrigeration Engineering and Related Services.
- Continuing education of Members and other interested persons in the said sciences through Lectures, Workshops, Product Presentations, Publications and Expositions.
- Rendition of career guidance and financial assistance to students of the said sciences.
- Encouragement of scientific research.

### **1.3 ISHRAE In DBIT**

ISHRAE DBIT is the student chapter of Don Bosco Institute of Technology, Kurla with ISHRAE Thane chapter as the parent chapter. ISHRAE DBIT has its own Chapter Working Committee under the Presidentship of Mr. Saurabh Yadav from BE Mechanical and Prof. Cleta Pereira as the Faculty In-charge. ISHRAE in DBIT has given our

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students great opportunities with each passing year. DBIT has been a part of ISHRAE since 2013. It was initially led by Prof. Sarangi. ISHRAE conducts various activities in DBIT and for the students of DBIT.

Sr. No	Name	Designation
1	Saurabh Yadav	President
2	Tarun Mulani	President Elect
3	Rushikesh Deshmukh	Secretary
4	Jerom Biju	Elect Secretary
5	Prajakta Patil	Treasurer
6	Bhavesh Wallecha	Tech Head
7	Gauri Patil	K12 Chair
8	Anuranjini Komban	PR Head
9	Simran Ahiwale	Women in ISHRAE
10	Tejas Paymode	Student Activity Chair

**Table 1. List of CWC Members of ISHRAE DBIT ( S.Y. 2021-22)**

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## **2.0 ACTIVITIES**

### **2.1 Installation Ceremony on 18<sup>th</sup> September, 2021**

ISHRAE DBIT Student Chapter under ISHRAE Thane Chapter conducted the Installation ceremony for the new CWC members of the academic year 2021-22 followed by a interactive session on HVAC Design Changes Amid Covid In Hospitals by Mr. Anirudh Baliga for the students of Don Bosco Institute of Technology under the guidance of faculty heads Prof. Cleta Pereira and Dr. Shashikant Pawar. The ceremony was held on the virtual platform using the Zoom meeting on 18th September, 2021 from 11:00 am to 1.15 pm. Around 62 participants attended the program.

Dr. Prasanna Nambiar, Principal, DBIT and Dr. Shashikant Pawar, HOD of Mechanical Engineering Department, DBIT appreciated the work done by ISHRAE in DBIT and expressed gratitude for ISHRAE Thane Chapter. Mr. Rajan Gaonkar, President of ISHRAE Thane Chapter started the Oath taking ceremony. After the Oath Taking Ceremony, Mr U.M Momin, Student Activity Chair welcomed all the dignitaries and showed a video of ISHRAE - which included highlights of ISHRAE activities such as sessions, webinars, site visits, job junction, internships, exhibition, k12 Platform for potential young minds to work in HVAC.

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**Figure 1 : The CWC and Faculty coordinator of ISHRAE DBIT.**

Finally, the guest speaker Mr. Anirudh Baliga who has been associated with the HVAC field for 9 years gave insights on the changes in the HVAC system amid Covid. He also talked about the way HVAC engineers had to look into the financial conditions, space specifications and the patient's health and staff protection at the same time. All of these conditions were to be considered while designing HVAC systems in Hospitals. After the event, the feedback received from the participants showed that the event was a grand success.

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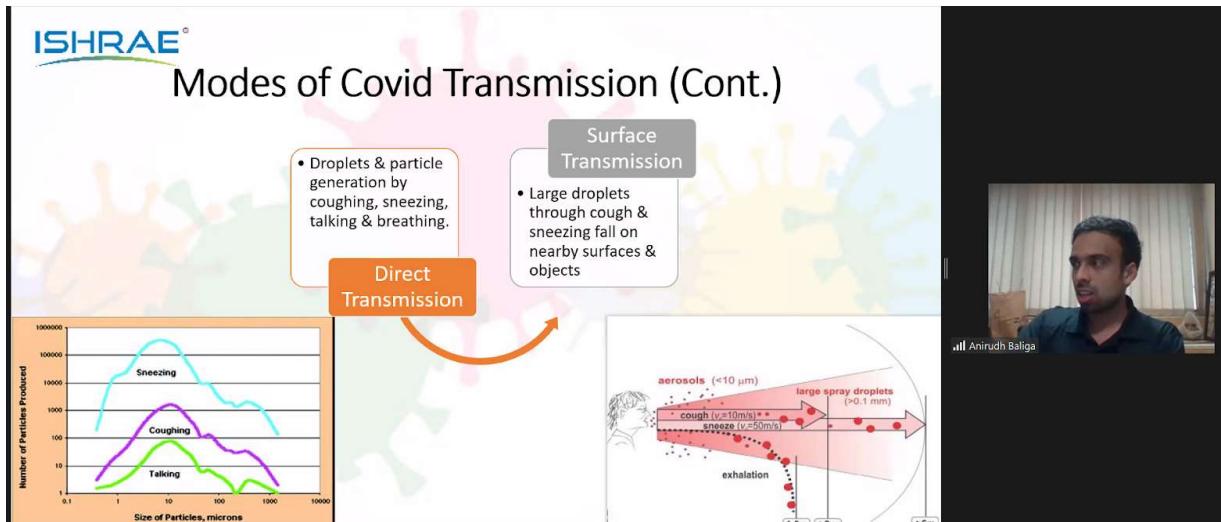


Figure 2 : The Speaker Mr. Anirudh Baliga explaining modes of Covid Transmission.

## 2.2 ISHRAE Thane Chapter Quiz Contest on 26<sup>th</sup> June, 2021

ISHRAE THANE CHAPTER organized an intercollege Quiz contest on the occasion for the celebration of Refrigeration day. The quiz contest began on 15th June, 2021. This contest is an online based wherein 57 students from 7 different colleges attended the event, including 17 students from DBIT.

The first event took place on 15th and continued till 18th June, 2021. At DBIT, the tests were conducted internally on 17th June, 2021. The top 3 students with high scores were chosen for the second round. The second round was conducted online on zoom meeting by ITC on 19th June, 2021. All 3 students from DBIT qualified for the 3rd round as well. The 3 students who qualified for the 3rd round were : Raj Vaswani, Aaditya Sawant and Prajakta Patil.

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Figure 3 : ISHRAE Thane Chapter Quiz Competition poster

The final round was held on 26th June, the refrigeration day. Prajakta Patil from DBIT won the 1<sup>st</sup> Prize and Raj Vaswani won the 2<sup>nd</sup>. They were given cash prize of Rs 1500 and Rs 1000 respectively. All participants got a certificate of participation from ISHRAE Thane Chapter.

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Figure 4 : Winners of the Quiz Competition from DBIT.

## 2.3 AC Maintenance & Installation Workshop conducted from 5th-22nd October, 2021.

ISHRAE DBIT conducted an AC Maintenance & Installation Workshop from 5th October to 22nd October, 2021 for its council members along with Faculty coordinator Prof. Cleta Pereira. The workshop was taken by the ITI faculty of DBCL. Various operations related to AC(window & split), installation its maintenance were taught in this workshop. In total, 5 tasks were completed during the Workshop.

Below is the list of tasks done :

DATE	TIMINGS	TASKS DONE
05/10/21	01:15 pm to 02:30 pm	½ Cu pipe Cutting. Flaring, Swedging.
06/10/21	10:30 am to 12:30 pm	½ , ¼ Cu pipe Cutting, Flaring, Swedging & Bending.
07/10/21	10:50 am to 01:05 pm	1) Drilling on ½ and ¼ pipe. 2) Cutting of capillary.

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		3) Pressing the 1/2 inch Cu pipe and attaching capillary to it.
08/10/21	10:30 am to 12:30 pm 1:30 - 3:15 pm	Flushing and leak testing of Window AC.
09/10/21	10:05 am to 01:20 pm	Dry maintenance of Split AC.
12/10/21	10:40 am to 12:50 pm 02:00 pm to 03:45 pm	1) PSC wiring 2) CSR wiring
13/10/21	10:50 am to 12:50 pm 01:45 pm to 04:15 pm	1) Opening of the outdoor unit, pump down the AC. 2) Charging the refrigerant.
18/10/21	11:15 pm to 01:45 pm	Troubleshooting
20/10/21	12:45 pm to 02:30 pm	Wet Maintenance
22/10/21	01:30 to 04:30 pm	Installation & Vacuuming

## 2.4 Treasure Hunt conducted on 9th October, 2021.

ISHRAE DBIT organized a Treasure Hunt on 9<sup>th</sup> October 2021 at 6 p.m. The event was named “The Clueminitis”. The Hunt consisted of one round. The registration for the event was open to DBIT as well as all other colleges. The criteria for registration was minimum 2/maximum 4 people in one team. Total 12 teams registered for this event out of which top 3 teams were considered as winners.

The flow of the event was:

1. Firstly, the CWC team made 10 clues.
2. Each was converted into a separate pdf and was encrypted with a password.
3. All clues including the pdf were provided at 5:55 p.m.
4. Password of the first pdf was provided at 6 p.m.
5. The answer of the first clue/pdf was the password to the second pdf , and so on.

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6. Answer of the last clue should be submitted by the teams through a google form provided by us.
7. First three teams submitting the google form with the right answer were considered as winners.

Winners of the treasure hunt:

1) Team Name: MASS

Team Members: i) Abhishek Waghmare  
ii) Sanika Surve  
iii) Simar Kaur  
iv) Madhavi Purohit

2) Team Name: Boys Gang

Team Members: i) Varad Kadam  
ii) Neel Chavan  
iii) Vidhu Gupta



Figure 5 : Flyer for Treasure Hunt event.

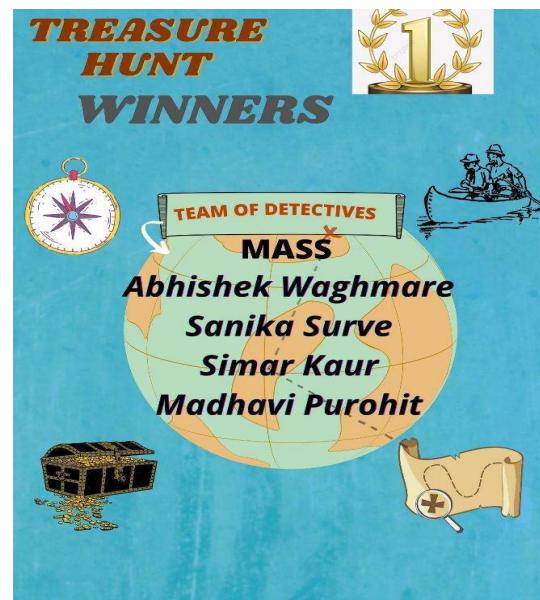


Figure 6 : Winners of Treasure Hunt

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## **2.5 Industrial Visit at Zeco Aircon Ltd. and Kruger Ventilation on 14th December, 2021.**

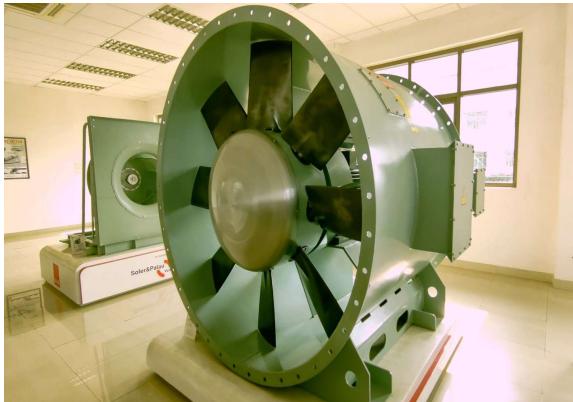
ISHRAE DBIT Student Chapter under ISHRAE Thane Chapter went for an Industrial Visit on 14th December, 2021 at Kruger Ventilation, Thansit and Zeco Aircon Ltd. for the student members of ISHRAE DBIT.

Zeco Aircon Ltd. is well known for their production of Air Handling Units and manufacturing of Ducts of Centralized Air-conditioning systems. The design of AHU is done by company personnel according to customer requirements. Students went to the production floor where they were introduced to the product called Pre-insulated Panels which are used to manufacture ducts for air distribution. An Italian design machine element which mixes chemicals in right proportions for forming insulation material of PID and it is designed in such a way to produce the material at the right time without affecting its functions. A duct system is also called ductwork. Various types of C-clits and S-clits used in the duct design were also shown. For cutting GI Ducts, a Plasma Arc cutting machine was used. Factory also manufactured Evaporator Coils. These tubes were assembled along with fins and then rigidly fixed by increasing tube diameter. These coils were checked for leakages by submerging them in water.

Kruger is a leading supplier of energy efficient ventilation solutions for residential and commercial buildings, industrial applications and infrastructures. Most comprehensive range of products available – axial, centrifugal, in-line, roof exhaust, mixed flow, domestic, smoke-spill fans. ISHRAE DBIT members got to know about the various ranges and features of In-line direct driven fans, DIDW Centrifugal fan with forward wheels, PLENUM fans, centrifugal anti-corrosive fans and roof exhaust fans.

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**Figure 7 : Various Centrifugal fans at Kruger Ventilations**



**Figure 8 : Heat exchangers and Duct rollers at Zeco Aircon**

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## **2.6 WOMEN'S WEBINAR- "WOMEN IN LEADERSHIP: ACHIEVING AN EQUAL FUTURE" conducted on 16th January, 2022.**

ISHRAE DBIT Student Chapter conducted an all women's webinar on "Women in Leadership: Achieving an Equal future" for the mechanical students on 16th January, 2022. The panel members for this event were the very own alumni of DBIT, they included

Vishaka Dikshit - Digital marketing intern Hydroball Technics Pte Ltd, Singapore  
Technical Marketing intern Mitsubishi Electric Asia Pacific, Singapore

Sheena Fernandes - Past President, ISHRAE, GS of DBIT(2020-21)

Sneha Usakoyal - Sr. Engineer - Service Sales at Blue Star

Bhagyashree Ingle - Sr. Engineer - Nuclear Estimation & Proposal Dept, L&T Heavy Engineering

The session was held on the virtual platform 'Google meet' on 16th January, 2022 from 04:00 pm to 05.30 pm. Around 20 girl participants attended the program including Prof. Cleta Pereira, the faculty coordinator of ISHRAE DBIT.

The idea behind organizing this event was to hold an activity during this online mode, which will help the female students of all branches discover new things and experiences about the alumni post degree. In this session, all the myths, difficulties and backlashes faced by the girls in all walks of life were discussed and how we can overcome them was also discussed.

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Figure 9 : Flyer for Womens webinar.

Figure 10 : Mechanical girls attending webinar.

## 2.7 Women's Day conducted on 8th March, 2022

ISHRAE DBIT Student Chapter conducted an Women's day event for all the DBIT Mechanical girl students on 8th March, 2022.

The session was held in the college premises on 8th March, 2022 from 02:00 pm to 04.00 pm. Around 10 girl students attended the event including Prof. Cleta Pereria, the faculty coordinator of ISHRAE DBIT and the ISHRAE DBIT council

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members. The event was conducted offline and was exclusively for the girl students of DBIT Mechanical branch. The event began with wishing all the girls on the occasion of women's day, carried on with a Chinese whisper game which was a fun pen and paper game where girls were writing down whispers about each other and the hosts reading them out loud. The next game was skribble following with Dumb charades wherein a person enacts the words of a chosen movie and the other participants have to guess it. Lastly, the event ended by cutting a cake and celebrating the importance of women in our lives.



**Figure 11 : Girls of Mechanical DBIT engulfed in a game during the event(L), Girls posing after the conclusion of the event(R)**

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## 2.8 Industrial Visit at Advantek Air Systems Ltd. on 12th March, 2022.

ISHRAE DBIT Student Chapter under ISHRAE Thane Chapter went for an Industrial Visit on 12th March, 2022 at Advantek Air Systems Ltd, Bhiwandi for the student members of ISHRAE DBIT. The industry manufactures Air Handling unit, Vertical Air Handling Unit, Ventilation Unit and Evaporative Cooling System. The main motto of the visit was to learn about the procedure of the entire manufacturing process of AHUs in an interactive way. The students came to know about the framework of raw materials used in ducts, sheet forming using PNC operation and puff injection machining. Lastly the students learned about the final tests done on the entire duct system. Instruments like anemometer (measure velocity), vibration meter, tachometer (checking for vibrations above 2 mm/sec), temperature gun, hydrometer (to check dry bulb, wet bulb and RH) and noise meter (65 DB) were used.



**Figure 12 : AHU and its filters manufactured at Advantek Air Systems**

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## 2.9 K12 Activity( Tips and Tricks on Maths & Science) conducted on 23rd March, 2022.

“Tips and tricks of Maths and Science”, a K12 activity was held on 23 March at 9.30AM. The activity was conducted by ISHRAE DBIT Student Chapter and ISHRAE faculty Advisor, Prof. Cleta Pereira. The activity was conducted offline with the students of Shishu Vikas Mandir, Kurla (West). Aim of this event was to make the budding generation aware of the technical world with a twist of fun learning and the event was conducted with great enthusiasm. We held three sessions of 20 minutes each and our council members performed and explained the planned physical experiments. Experiments related to sanitizers and why we should use semi liquid sanitizer instead of liquid sanitizer for daily needs was explained. In the next experiment, need oxygen to burn air and why water flows from high pressure to low pressure was explained by the council members.

Last but not least was of Vedic maths. It was full of enthusiasm where many students participated in solving math problems after explaining the tips and tricks for solving maths in a very short time.



Figure 13 : Council Members of ISHRAE DBIT demonstrating experiments

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