

**ECBC WORKSHOPS**  
**BRIEF REPORT FOR**  
**SESSION 2019-20**

## ECBC Workshops Detail – Session 2019-2020

S No.	Type of Workshop	Type of Training	Date of conduct	Venue of Workshop	No. of participants	Master Trainer
1.	Two-day	B	21.11.2019 22.11.2019	Mewat Engineering College, Nuh	39	Mr. Manoj Singh, Dr. Chitrarekha Kabre
2.	One-day	A	03.12.2019	Zila Vikas Bhawan, Rohtak	54	Mr. Manoj Singh
3.	One-day	A	19.12.2019	HAREDA, Panchkula	42	Mr. Anurag Bajpai
4.	One-day	A	15.01.2020	UIET, Kurukshetra	30	Mr. Money Khanna
5.	One-day	A	04.02.2020	DCRUST, Sonapat	44	Dr. Chitrarekha Kabre
6.	Two-day	B	27.02.2020 28.02.2020	Northcap University, Gurugram	38	Mr. Manoj Singh Mr. Anurag Bajpai
7.	One-day	A	16.03.2020	Government Polytechnic College, Ambala	60	Mr. Manoj Singh
8.	Two-day	B	28.01.2021 29.01.2021	Govt Post Graduate College, Panchkula	36	Mr. Manoj Singh Mr. Money Khanna
9.	One-day	A	04.02.2021	Indo Swiss Training Centre, Chandigarh	32	Mr. Money Khanna
10.	Two-day	B	08.02.2021 09.02.2021	NIT, Kurukshetra	35	Mr. Money Khanna Mr. Manoj Singh
11.	Two-day	B	11.02.2021 12.02.2021	State Institute of Engineering & Technology (Nilokheri), Karnal	37	Dr. Chitrarekha Kabre Mr. Manoj Singh
12.	Two-day	B	22.02.2021 23.02.2021	DCRUST, Sonipat	45	Dr. Chitrarekha Kabre Mr. Manoj Singh
13.	Two-day	C	25.02.2021 26.02.2021	Sushant University, Gurugram	30	Mr. Manoj Singh Mr. Ankur Tulsyan
14.	Two-day	C	12.04.2021 13.04.2021	Maharishi Markandeshwar University, Sadopur, Ambala	34	Mr. Money Khanna Mr. Manoj Singh
15.	One-day	A	24.11.2022	DCRUST, Sonipat	63	Dr. Chitrarekha Kabre
16.	Two-day	B	22.12.2022 23.12.2022	MMU Mullana, Ambala	56	Mr. Abu Talha Farooqi Ms. Mariyam Zakiah

- Total No. of ECBC Workshops to be organised as Per BEE Roadmap: Type A = 6 , Type B = 6, Type C = 4
- Total No. of Workshops organised = 16
- Total number of participants = 675

## **WORKSHOP – 1**

- **Training** : Two day ECBC Awareness Training Program
- **Date**: 21-22<sup>th</sup> November 2019
- **Venue**: Mewat Engineering College, Nuh
- **ECBC Master Trainers**: Mr. Manoj Singh, Dr. Chitrarekha Kabre



The Two-day ECBC training workshop was organized for the Architects, Engineers, Building Professionals and Government officials from Nuh, Gurugram and surrounding places. The event was hosted by State Designated Agency for energy conservation, HAREDA, Haryana in co- ordination with ECBC cell Haryana. On day one, Mr Manoj Singh (ECBC Master Trainer) put light on the ECBC-2017 and how it covers every aspect of buildings design such as roof, windows, walls indoor lighting and outdoor lighting. He also highlighted the importance of mechanical systems including HVAC & service hot water. On day second, Dr. Chitrarekha Kabre (ECBC Master Trainer) gave an overview on the Lighting Systems and Renewable Energy techniques.

## **WORKSHOP – 2**

- **Training** : One day ECBC Awareness Training Program
- **Date**: 3<sup>rd</sup> December 2019
- **Venue**: Zila Vikas Bhawan, Rohtak
- **ECBC Master Trainers**: Mr. Manoj Singh



In this One day Workshop, Mr. Manoj Singh (ECBC Master Trainer) gave an overview on the building physics. He highlighted the role of passive design in making buildings ECBC compliant which includes the impact of glass and walls in energy consumption. He also explained about the basics of EMIS software prepared by the BEE and he introduced about eQUEST software for energy modeling of building by taking an example of small building case, he covered the parts of simulation on multi-zone type building model, modeling techniques, building geometry material assignment as per ECBC.

### **WORKSHOP – 3**

- **Training** : One day ECBC Awareness Training Program
- **Date**: 19<sup>th</sup> December 2019
- **Venue**: Akshay Urja Bhawan, HAREDA, Panchkula
- **ECBC Master Trainers**: Mr. Anurag Bajpai



In this One day Workshop, Mr. Anurag Bajpai (ECBC Master Trainer) briefed about ECBC-2017. He explained the mandatory requirements of ECBC 2017. Then he covered the compliance approaches (mandatory and prescriptive compliance method) and concluded the presentation with stressing on the need of energy efficient building design. Further he explained the methodology to create the ECBC case and the proposed case and then explained how to calculate EPI ratio.

## **WORKSHOP – 4**

- **Training** : One day ECBC Awareness Training Program
- **Date**: 15<sup>th</sup> January 2020
- **Venue**: University Institute Of Engineering and Technology, Kurukshetra
- **ECBC Master Trainers**: Mr. Money Khanna



In this One day Workshop, Mr. Money Khanna (ECBC Master Trainer) gave a background on ECBC. He talked about Energy Conservation and its humanitarian related issues. He also explained about various government initiative plans on climate change and energy conservation. He discussed the role of insulation in energy consumption of buildings and how conduction, convection and radiation play a role in heat transfer in. He explained parameters like occupant heat, equipment load, lighting load as well as infiltration.

## **WORKSHOP – 5**

- **Training** : One day ECBC Awareness Training Program
- **Date**: 04<sup>th</sup> February 2020
- **Venue**: Deenbandhu Chottu Ram University of Science and Technology, Sonipat
- **ECBC Master Trainers**: Dr. Chitrarekha Kabre



In this One day Workshop, Dr. Chitrarekha Kabre (ECBC Master Trainer) explained about various government initiative plans on climate change and energy conservation. She continued her presentation by highlighting the role of techniques such as thermal insulation, efficient building materials and efficient glazing systems in making building envelope ECBC compliant. She explained how efficient HVAC systems can help reduce energy consumption in Indian buildings.

## **WORKSHOP – 6**

- **Training** : Two day ECBC Awareness Training Program
- **Date**: 27-28<sup>th</sup> February 2020
- **Venue**: Northcap University, Gurugram
- **ECBC Master Trainers**: Mr. Manoj Singh, Mr. Anurag Bajpai



In this Two day Workshop, Mr. Manoj Singh (ECBC Master Trainer) gave an overview on the building physics. He demonstrated the comfort prediction in a building with the help of scientific tools. He continued his presentation by highlighting the role of passive design in making buildings ECBC compliant which includes the impact of glass and walls in energy consumption. On day second, Mr. Anurag Bajpai (ECBC Master Trainer) put light on ECBC-2017. He explained how HVAC system consumes about 41% of energy in buildings in Indian subcontinent and if we implement the code properly than we can save the energy by at-least one-third.



## WORKSHOP – 7

- **Training** : One day ECBC Awareness Training Program
- **Date**: 16<sup>th</sup> March 2020
- **Venue**: Government Polytechnic College, Ambala
- **ECBC Master Trainers**: Mr. Manoj Singh



In this One day Workshop, Mr. Manoj Singh (ECBC Master Trainer) gave a background on ECBC2017. He discussed the role of the insulation in reducing energy consumption in the buildings. He explained about parameters like occupant heat, equipment load, lighting load as well as infiltration. He concluded the presentation by explaining the building energy simulation basics in brief and building performance method.

## **WORKSHOP – 8**

- **Training** : Two day ECBC Awareness Training Program
- **Date**: 28-29<sup>th</sup> January 2021
- **Venue**: Govt Post Graduate College, Sector-1, Panchkula
- **ECBC Master Trainers**: Mr. Money Khanna, Mr. Manoj Singh



In this Two day Workshop, Mr. Money Khanna (ECBC Master Trainer) highlighted the implementation of techniques like efficient building materials, thermal insulation, efficient glazing systems and efficient HVAC systems making ECBC complaint buildings. On day second, Mr. Manoj Singh (ECBC Master Trainer) put light on the ECBC-2017 and how it covers every aspect of buildings design such as roof, Fenestration, indoor lighting and outdoor lighting. He gave an overview on the Lighting Systems. He continued her presentation by highlighting the role of passive design in making buildings ECBC compliant which includes the impact of sensors and VRV's in energy consumption.

## **WORKSHOP – 9**

- **Training** : One day ECBC Awareness Training Program
- **Date**: 4<sup>th</sup> February 2021
- **Venue**: Indo Swiss Training Centre, Sector 30 C, Chandigarh
- **ECBC Master Trainers**: Mr. Money Khanna



In this One day Workshop, Mr. Money Khanna (ECBC Master Trainer) gave an overview on the building physics. He discussed the role of insulation in energy consumption of buildings and how conduction, convection and radiation play a role in heat transfer in. He explained the mandatory requirements of ECBC 2017. He covered the compliance approaches (mandatory and prescriptive compliance method) and concluded his presentation with stressing on the need of energy efficient building design.

## WORKSHOP – 10

- **Training** : Two day ECBC Awareness Training Program
- **Date**: 8-9<sup>th</sup> February 2021
- **Venue**: National Institute of Technology, Kurukshetra
- **ECBC Master Trainers**: Mr. Money Khanna, Mr. Manoj Singh



In this Two day Workshop, Mr. Money Khanna (ECBC Master Trainer) put light on ECBC-2017. He explained about various government initiative plans on climate change and energy conservation. He explained the mandatory requirements of ECBC 2017. Then he covered the compliance approaches (mandatory and prescriptive compliance method) and concluded the session with stressing on the need of energy efficient building design. On day second, Mr. Manoj Singh (ECBC Master Trainer) explained about the basics of EMIS software prepared by the BEE and he introduced about eQUEST software for energy modeling of building by taking an example of small building case, he covered the parts of simulation on multi-zone type building model, modeling techniques, building geometry material assignment as per ECBC.

## **WORKSHOP – 11**

- **Training** : Two day ECBC Awareness Training Program
- **Date**: 11-12<sup>th</sup> February 2021
- **Venue**: State Institute of Engineering & Technology (Nilokheri), Karnal
- **ECBC Master Trainers**: Dr. Chitrarekha Kabre, Mr. Money Khanna



In this Two day Workshop, Dr. Chitrarekha Kabre explained about various government initiative plans on climate change and energy conservation. She continued her presentation by highlighting the role of techniques such as thermal insulation, efficient building materials and efficient glazing systems in making building envelope ECBC compliant. She explained how efficient HVAC systems can help reduce energy consumption in Indian buildings. On day second, Mr. Money Khanna (ECBC Master Trainer) explained about the mandatory requirements of ECBC 2017. He covered the compliance approaches (mandatory and prescriptive compliance method) and concluded his presentation with stressing on the need of energy efficient building design.

## WORKSHOP – 12

- **Training** : Two day ECBC Awareness Training Program
- **Date**: 22-23<sup>th</sup> February 2021
- **Venue**: DCRUST, Sonipat
- **ECBC Master Trainers**: Dr. Chitrarekha Kabre, Mr. Manoj Singh



In this Two day Workshop, Dr. Chitrarekha Kabre (ECBC Master Trainer) gave an overview on the Lighting Systems. She demonstrated the comfort prediction of Lighting in a building with the help of scientific tools. She continued his presentation by highlighting the role of passive design in making buildings ECBC compliant which includes the impact of sensors and VRV's in energy consumption. On day second, Mr. Manoj Singh (ECBC Master Trainer) explained about the basics of EMIS software prepared by the BEE and he introduced about eQUEST software for energy modeling of building by taking an example of small building case, he covered the parts of simulation on multi-zone type building model, modeling techniques, building geometry material assignment as per ECBC.

## WORKSHOP – 13

- **Training** : Two day ECBC Awareness Training Program
- **Date**: 25-26<sup>th</sup> February 2021
- **Venue**: Sushant University, Gurugram
- **ECBC Master Trainers**: Mr. Manoj Singh, Mr. Ankur Tulsyan



In this Two day Workshop, Mr Manoj Singh (ECBC Master Trainer) put light on the ECBC-2017 and how it covers every aspect of buildings design such as roof, windows, walls indoor lighting and outdoor lighting. He also highlighted the importance of mechanical systems including HVAC & service hot water. On day second, Mr. Ankur Tulsyan gave an overview on the building physics. He demonstrated the comfort prediction in a building with the help of scientific tools. He continued his presentation by highlighting the role of passive design in making buildings ECBC compliant which includes the impact of glass and walls in energy consumption. Then he explained about building energy simulation basics in brief and building performance method. He continued his presentation with building energy simulation (WBP Method) in which he explains energy performance index, the modeling assumptions and EPI calculation methodology for baseline/standard case/ECBC case and user case/proposed case and EPI ratio computation for checking ECBC compliance.

## WORKSHOP – 14

- **Training** : Two day ECBC Awareness Training Program
- **Date**: 12-13<sup>th</sup> April 2021
- **Venue**: Maharishi Markandeshwar University, Sadopur, Ambala
- **ECBC Master Trainers**: Mr. Money Khanna, Mr. Manoj Singh



In this One day Workshop, Mr. Money Khanna (ECBC Master Trainer) put light on the ECBC-2017 and how it covers every aspect of buildings design such as roof, windows, walls indoor lighting and outdoor lighting. He also highlighted the importance of mechanical systems including HVAC & service hot water. Then he explained about building energy simulation basics in brief and building performance method. On day second, Mr. Manoj Singh explained about the basics of EMIS software prepared by the BEE and he introduced about eQUEST software for energy modeling of building by taking an example of small building case, he covered the parts of simulation on multi-zone type building model, modeling techniques, building geometry material assignment as per ECBC.



## **WORKSHOP – 15**

- **Training:** One day ECBC Awareness Training Program
- **Date:** 24<sup>th</sup> November 2022
- **Venue:** DCRUST, Sonipat
- **ECBC Master Trainers:** Dr. Chitrarekha Kabre

The workshop was organized at the Conference Hall, Architecture Department, DCRUST. Prof. (Dr.) Parveen Kumar, Chairman of Department was the Chief Guest in the programme. In this One-day Workshop, Dr. Chitrarekha Kabre (ECBC Master Trainer) explained about various government initiative plans on climate change and energy conservation. She continued her presentation by highlighting the role of techniques such as thermal insulation, efficient building materials and efficient glazing systems in making building envelope ECBC compliant. She explained how efficient HVAC systems can help reduce energy consumption in Indian buildings. She also presented the case study of the energy efficient buildings located in the various Indian climates. It was also showed that energy savings can be achieve through various techniques and comparison was made.





## WORKSHOP – 16

- **Training:** Two day ECBC Awareness Training Program
- **Date:** 22-23<sup>rd</sup> December 2022
- **Venue:** MMU Mullana, Ambala
- **ECBC Master Trainers:** Mr. Abu Talha Farooqi, Mrs. Mariyam Zakiah

The workshop was organized at the Conference Hall, Maharishi Markandeshwar University (Civil Engg Department), Mullana, Ambala. Prof. (Dr.) Ashok Kumar, Dean, Engineering & Technology was the Chief Guest in the programme. Dr. Vineeta Agarwal, HoD, Civil Engineering Deptt. and Dr. N. F. Batra, HoD, Mechanical Engineering Deptt. were also present in the programme.

On day one, Mr. Abu Talha Farooqi, BEE certified master trainer explained about various government initiative plans on climate change and energy conservation. He continued his presentation by highlighting the role of techniques such as thermal insulation, efficient building materials and efficient glazing systems in making building envelope ECBC compliant. He explained how efficient HVAC systems can help reduce energy consumption in Indian buildings. He also presented the case study of the energy efficient buildings located in the various Indian climates. It was also showed that energy savings can be achieve through various techniques and comparison was made.



On day two, Mrs. Mariyam Zakiah, BEE certified master trainer highlighted the energy scenario in India. She briefed about modes of heat transfer through building envelope of the building. She put light on various energy conservation measures (ECMs) can be applied in building envelope to conserve energy inside the building. Further, she explained about the thermal comfort achieved due to different air-conditioning systems. She also explained the different parameters which can impact the thermal comfort inside the interior space.



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