SCHOOL OF
ARCHITECTURE & DESIGN

3.28 SCORE

INSPIRED BY LIFE

MANIPAL UNIVERSITY
JAIPUR

IN COLLABORATION WITH

KONBAC
KONKAN BAMBOO AND CANE DEVELOPMENT CENTRE
Community First

EDP

JANUARY
04th-08th, 2021
3:30PM TO 5:00PM
I.S.T.

EXECUTIVE DEVELOPMENT PROGRAMME

FOR

CONSTRUCTION INDUSTRY

B A M B O O

KEY NATURAL RESOURCE FOR CONSCIOUS DESIGN & CONSTRUCTION

QR-CODE
<-----PAYMENT
REGISTRATION--->

ABOUT MANIPAL UNIVERSITY JAIPUR

MANIPAL UNIVERSITY JAIPUR (MUJ) HAS REDEFINED ACADEMIC EXCELLENCE IN THE REGION, WITH WAY OF LEARNING THAT INSPIRES STUDENTS OF ALL DISCIPLINES TO LEARN AND INNOVATE THROUGH HANDS ON EXPERIENCE. THE MULTI-DISCIPLINARY UNIVERSITY OFFERS CAREER-ORIENTED COURSES AT ALL LEVELS, I.E., UG, PG AND DOCTORAL AND ACROSS DIVERSE STREAMS, INCLUDING ENGINEERING, ARCHITECTURE, PLANNING, FASHION DESIGN, INTERIOR DESIGN, FINE ARTS, HOSPITALITY, HUMANITIES, JOURNALISM AND MASS COMMUNICATION, BASIC SCIENCES, LAW, COMMERCE, COMPUTER APPLICATIONS, MANAGEMENT, ETC.

MANIPAL UNIVERSITY JAIPUR FOSTERS THE SPIRIT OF ENTREPRENEURSHIP AND INNOVATION THEREFORE IT HAS BEEN GRANTED ATAL INCUBATION CENTRE AT THE UNIVERSITY PREMISES, FUNDED BY NITI AAYOG, GOVERNMENT OF INDIA. DST, GOVERNMENT OF RAJASTHAN, ACKNOWLEDGING THE UNIVERSITY AS THE CENTRE OF EXCELLENCE, HAS DESIGNATED IT AS TECHNOLOGICAL AND TRAINING CENTRE. **MUJ** HAS 48 INCUBATED STARTUPS AT ITS CAMPUS. E CELL OF MANIPAL UNIVERSITY JAIPUR KEEPS PROMOTING ENTREPRENEURIAL ACTIVITIES; E- CONCLAVE IS ONE OF THE MAJOR EVENTS.

ABOUT SCHOOL OF ARCHITECTURE & DESIGN, MUJ

THE **ACADEMIC EXCELLENCE AWARD WINNING SCHOOL OF ARCHITECTURE & DESIGN (SA&D), MANIPAL UNIVERSITY JAIPUR** IS DEDICATED TO PROVIDE WORLD CLASS ARCHITECTURAL EDUCATION. AN AMBIENCE TO INCULCATE CREATIVITY AND INNOVATION, STATE OF THE ART FACILITIES, DEDICATED & EXPERIENCED FACULTY AND STUDENT-CENTRIC ACADEMIC PRACTICES BEYOND SYLLABUS ARE THE HALLMARKS OF THE SCHOOL. THE QUALITY OF LIFE AT **SA&D** IS DESIGNED TO SHAPE THE STUDENTS INTO PROFESSIONALS WITH GOOD HUMAN VALUES.

ABOUT KONBAC

BASED IN KUDAL, SINDHUDURG DISTRICT, **KONBAC** IS A NON-PROFIT ORGANISATION DEDICATED TO THE PROMOTION OF BAMBOO AS A SUSTAINABLE INDUSTRIAL RAW MATERIAL FOR THE GENERATION OF RURAL LIVELIHOODS, FOR USE IN CONSTRUCTION, FURNITURE AND GIFT ARTICLES.

KONBAC GOALS TO EMPOWER TRADITIONAL BAMBOO ARTISANS, ESPECIALLY WOMEN TO BUILD SUSTAINABLE LIVELIHOODS BY PROVIDING TRAINING, TECHNOLOGY ACCESS, MARKET LINKAGES AND ENSURING CERTIFICATION. **KONBAC** HARNESSES THE COMMUNITY'S, ESPECIALLY WOMEN'S TRADITIONAL SKILLS IN BAMBOO CRAFT TO CREATE MARKETABLE DESIGNER PRODUCTS BY PROVIDING TRAINING AND ACCESS TO TECHNOLOGY.

ABOUT THE EXECUTIVE DEVELOPMENT PROGRAMME

IN THE CONTEXT OF A GLOBAL ENVIRONMENTAL CRISIS, COUPLED WITH ECONOMIC AND HEALTH CHALLENGES, THE TIME HAS COME FOR A RADICAL CULTURAL AWARENESS. POLITICIANS, ARCHITECTS, ENGINEERS, DEVELOPERS, CONSTRUCTION COMPANIES HAVE AN ENORMOUS RESPONSIBILITY AS THE CONSTRUCTION INDUSTRY AND PROCESSES HAVE AN ENORMOUS NEGATIVE IMPACT ON THE ENVIRONMENT. BAMBOO IS A KEY NATURAL RESOURCE AND, TOGETHER WITH CONSCIOUS DESIGN, DRAWS A NEW DIRECTION FOR CONTEMPORARY ARCHITECTURE.

THIS **EXECUTIVE DEVELOPMENT PROGRAMME** PROVIDES INDUSTRY PROFESSIONALS AND ACADEMICIANS AN INSIGHT TO THE **APPLICATION OF BAMBOO** AS A SUSTAINABLE MATERIAL. THIS RELATES TO THE INTRODUCTION AND PROLIFERATION OF THE **CONSTRUCTION TECHNIQUES IN BAMBOO AND THE NEWER AREAS BEING EXPLORED IN THE FIELD OF BAMBOO CONSTRUCTION**. THE OBJECTIVE OF THE PROGRAMME IS TO EQUIP THE PROFESSIONALS WITH THE GROWING APPLICATION OF BAMBOO IN CONSTRUCTION INDUSTRY.

RESOURCE PERSONS

DAY 01 — **Prof. (Dr.) SONG YEHAO**
Professor, School of Architecture,
Tsinghua University, Beijing, China
Founder & Principal SUP ATELIER
Topic: CONSCIOUS DESIGN BAMBOO ARCHITECTURE

DAY 02 — **Ar. SANJAY PRAKASH**
Architect
SHiFt: Studio for Habitat Futures Architects
Topic: DESIGNING LARGE SPAN BAMBOO STRUCTURES

DAY 03 — **Prof. SANKALPA**
Assistant Professor, FA, CEPT University
Partner Thumbimpressions
Topic: DETAILING IN BAMBOO CONSTRUCTION

DAY 04 — **Dr. SADHANA TRIPATHI**
Professor & Scientist-G, Forest Products Division
Forest Research Institute
Dehradun, Uttarakhand, India
Topic: PRESERVATIVE TREATMENT & FIRE RETARDANCYOF STRUCTURAL BAMBOO

DAY 05 — **Mr. SANJEEV KARPE**
Founder Director, KONBAC
Konkan Bamboo & Cane Development Center
Topic: EXPERIENCE OF BAMBOO CONSTRUCTION IN INDIA

DAY 05 — **Prof. (Dr.) MADHURA YADAV**
Director
School of Architecture & Design (SA&D)
Manipal University Jaipur (MUJ)
Topic: RESEARCH OVERVIEW OF BAMBOO CONSTRUCTION

WHO CAN PARTICIPATE

RESEARCH SCHOLARS, ACADEMICIANS AND PRACTITIONERS IN THE FIELD OF ARCHITECTURE, DESIGNING, CIVIL & STRUCTURAL ENGINEERING.

REGISTRATION FEE

₹ 500 /- (FOR EXTERNAL PARTICIPANT)
₹ 200 /- (FOR INTERNAL PARTICIPANT)

NOTE

AFTER THE SUCCESSFUL COMPLETION OF **EDP**, AN E-CERTIFICATE WILL BE GIVEN TO ALL PARTICIPANTS.

HOW TO APPLY

INTERESTED CANDIDATE MAY REGISTER BY **02nd JANUARY 2021** THROUGH THE LINK:
HTTPS://FORMS.GLE/E38WDVNBR8JHKCAQ7

ORGANISING COMMITTEE

PATRON
PROF. (DR.) G K PRABHU
PRESIDENT, MANIPAL UNIVERSITY JAIPUR

VICE - PATRON
PROF. (DR.) N N SHARMA
PRO - PRESIDENT, MANIPAL UNIVERSITY JAIPUR

VICE - PATRON
PROF. (DR.) H RAVISHANKAR KAMATH
REGISTRAR, MANIPAL UNIVERSITY JAIPUR

CONVENOR
PROF. (DR.) ANURADHA CHATTERJEE
DEAN, FACULTY OF DESIGN
MANIPAL UNIVERSITY JAIPUR

CONVENOR
PROF. (DR.) MADHURA YADAV
DIRECTOR, SCHOOL OF ARCHITECTURE & DESIGN
MANIPAL UNIVERSITY JAIPUR

CONVENOR
PROF. SUNANDA KAPOOR
HEAD, SCHOOL OF ARCHITECTURE & DESIGN
MANIPAL UNIVERSITY JAIPUR

ORGANISING SECRETARIES

Ar. ABHAS VERMA
ASSISTANT PROFESSOR, SA&D, MUJ

Ar. AKSHAY GUPTA
ASSISTANT PROFESSOR, SA&D, MUJ

Executive Development Programme on Bamboo – Key Natural Resource for Conscious Design & Construction

04 Jan – 08 Jan 2021

Organized by

MANIPAL UNIVERSITY JAIPUR
(University under Section 2(f) of the UGC Act)

School of Architecture & Design,
Manipal University Jaipur

In collaboration with

KONBAC
KONKAN BAMBOO AND CANE DEVELOPMENT CENTRE
Community First

INAUGURAL SESSION

The Executive Development Programme (EDP) on 'Bamboo as Key Natural Resource for Conscious Design & Construction', was organized by School of Architecture and Design (SA&D), Manipal University Jaipur in collaboration with KONBAC, Maharashtra from 04th January 2021 to 08th January 2021, which was attended by 71 participants.

The inaugural address was delivered by Honorable Shri Suresh Prabhu, Member of Rajya Sabha, India's Sherpa to G7 & G20 and the Chairman of India bamboo Forum. The address by Shri Prabhu gave valuable insights to the participants on the importance of exploring bamboo as a sustainable material and lauded the role of MUJ and KONBAC in organizing the EDP. He encouraged the participants to engage more into research, which would help the society as a whole.

The presidential address was given by Prof. (Dr.) G. K. Prabhu, President, Manipal University Jaipur. Dr. Prabhu appreciated the initiative of conducting the programme targeted for the executives and industry professional. He shared his experiences with bamboo through examples, and showcased the role of Manipal University in Promoting Green buildings and construction.

Dr. Anuradha Chatterjee, Dean, Faculty of Design, Dr. Madhura Yadav, Director, School of Architecture and Design and Mr. Krunal Negandhi gave the welcome address to the participants. Prof. Sunanda Kapoor, Head, School of Architecture and Design, delivered the vote of thanks.

Figure 1 Inaugural address of EDP by Honorable Shri Suresh Prabhu

Day 01

Prof. (Dr.) Song Yehao, School of Architecture, Tsinghua University, Beijing, China conducted session on Conscious Design - Bamboo Architecture. Prof. Song focuses on sustainable theory and design for over 20 years and has won numerous awards for his works in field of architecture. Prof. Song discussed his selected works that depict the thoughtful approach toward design. The presentation started with the discussion of a Lounge, in a village context, where the structure was merged with the surrounding, using only Bamboo. The second project was a multi-use space, named Swirling Cloud, where the organic form was achieved through detailed study of context, user behavior, light and ventilation. The presentation concluded with a pavilion project develop as a composite structure with a large span roof in Bamboo, mud walls and stone foundations. All the stone was sourced within a 20km radius of the site and locally available workers were engaged along with specialized teams, for the erection of the bamboo roof. The presentation highlighted the importance of designing based on form, material selection and character of the place and surrounding environment. The discussion definitely broadened the horizon and showed new paths with respect to bamboo architecture through use of mindful approach to address the design issues.

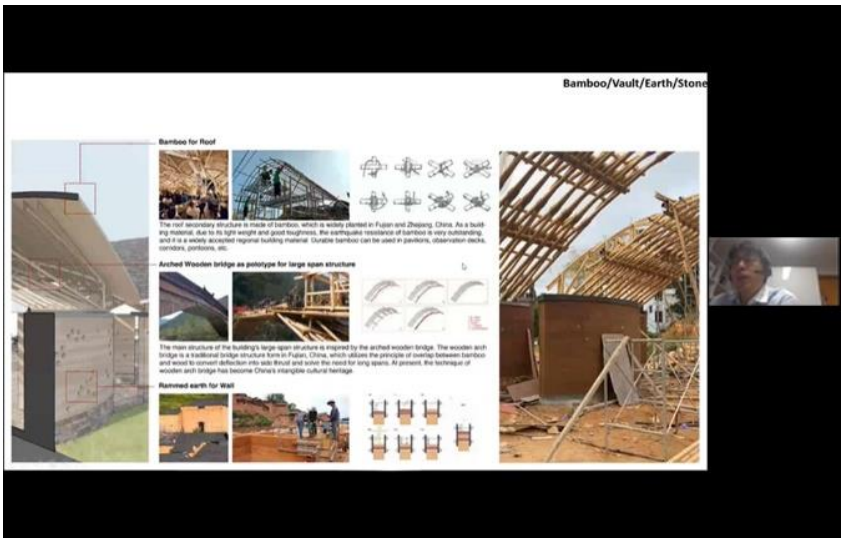

Figure 3 Session by Dr. Song Yehao on Bamboo Construction

Figure 2 Discussion with Dr. Song Yehao

Day 02

Figure 4 Ar. Sanjay Prakash discussing his works

Ar. Sanjay Prakash, Principal, Studio for Habitat and Future(SHiFt), New Delhi, a renowned architect with 30 years of experience in practice & research in passive and low energy architecture, hybrid air-conditioning, autonomous energy & water systems, bamboo & earth construction, community-based design of common property, and computer-aided design. Ar. Prakash addressed the participants on the large span construction in Bamboo through selected works and graphics. The session started with the details used in construction by him which included the joinery and connections of bamboo to achieve large spans, supported through live examples. The presentation moved ahead raising concerns and lacunas associated with mainstreaming bamboo as a widely accepted construction material. He highlighted the importance of developing a dedicated code of practice for Bamboo as there are research gaps associated with the fire resistance, crack control and specification for using the correct species of bamboo for a particular use. He focused on the inter-dependent triangle of Architects & Structural Engineers, Suppliers and Builders, and emphasized on developing a wider supply base of Bamboo for construction as it is limited to only a select few manufacturers. The presentation concluded with an intriguing set of question answer round where the expert answered queries related to supply, joinery and future research.

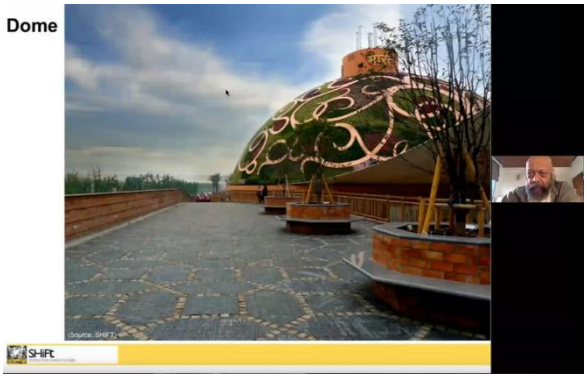

Figure 5 Discussion with Ar. Sanjay Prakash

Day 03

Ar. Sankalpa, Assistant Professor, CEPT University, Ahmedabad and Partner Thumbimpressions, gave insights into Bamboo structure – joinery details through his selected works and research. The presentation was deliberated around the detailing in bamboo construction with respect to the morphology (geometry) of bamboo and chemical & mechanical properties. The later part of the presentation covered the recent trends in the bamboo construction throughout the nation and pointed out many future tasks along with suggestions for scope of research in area like aesthetics in bamboo, roofing structures, shading devices, etc. for further research.

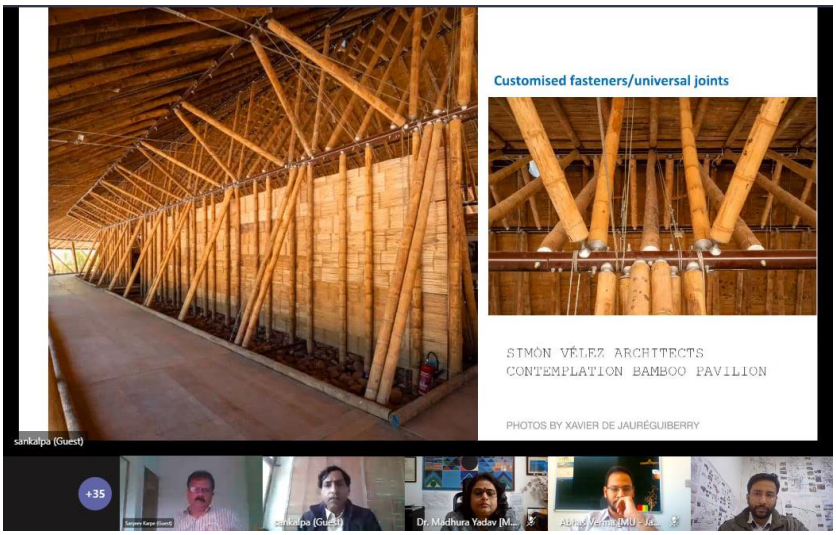

Figure 6 Presentation by Ar. Sankalpa on Joinery in Bamboo

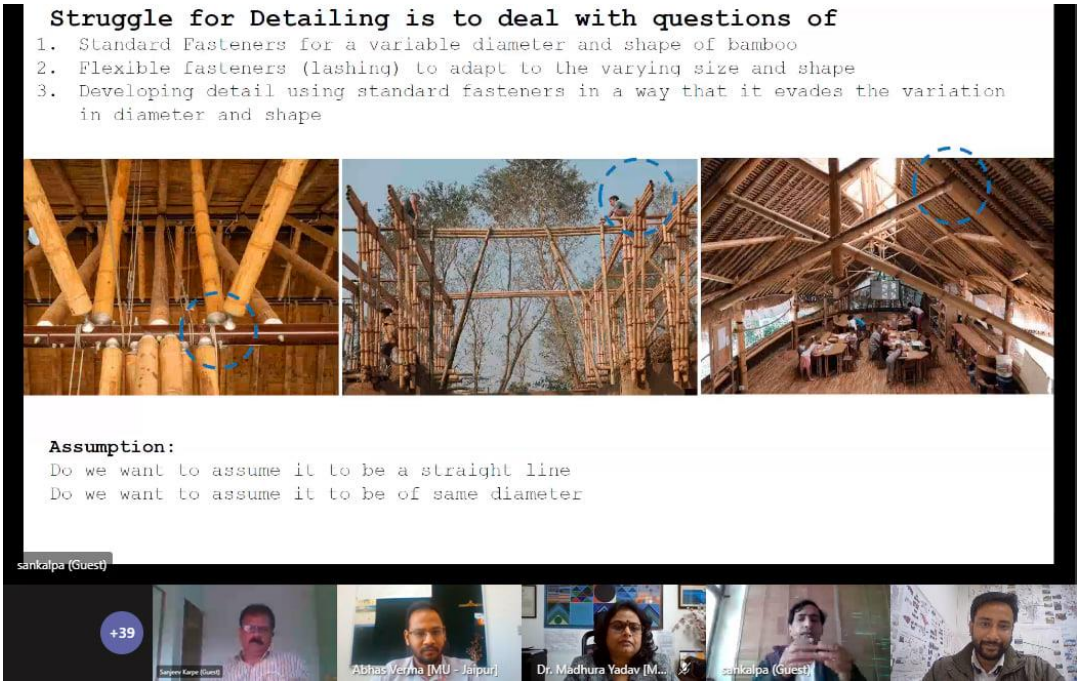

Figure 7 Issues while detailing in Bamboo by Ar. Sankalpa

Day -04

Dr. Sadhana Tripathi, Professor and Scientist-G, Forest production Division, Forest Research institute, Dehradun gave her expert insights on the defects in bamboo and the preventive measures to increase the life-span of bamboo construction. She elaborated on the various preservatives and the best practices to safeguard bamboo, along with studies conducted at FRI, with respect to improving life span and fire retarding of structural bamboo. Her pilot projects developed at the FRI, Dehradun, developed with state of the art tools used for Bamboo construction have raised the lifespan, and have helped train the people in developing bamboo products with increased lifespan and durability. The presentation also gave the audience insights into the recently explored process of fumigation of Bamboo for preservation.

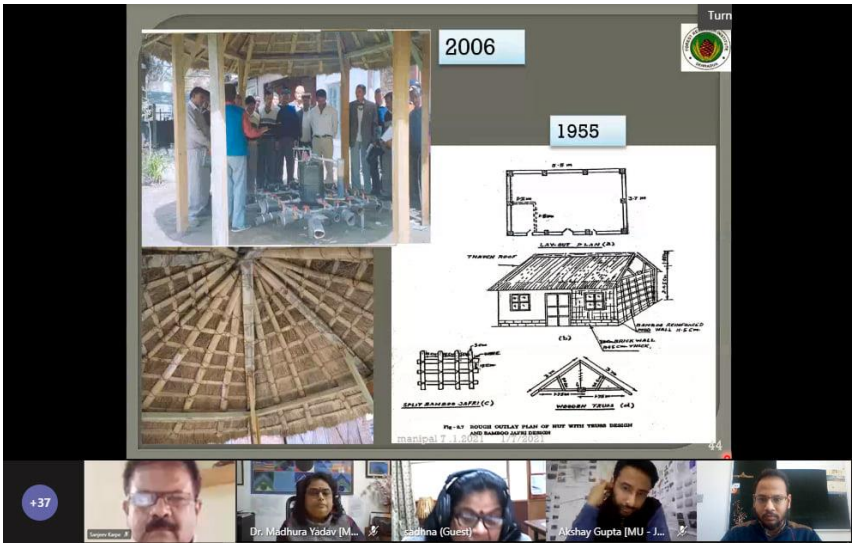

Figure 8 Bamboo structures installed in FRI

Figure 9 Treatment of Bamboo using fumigation

Day -05

Dr. Mateo Gutierrez, Member Bamboo Construction Taskforce INBAR, gave insights on the fire performance of bamboo through the findings of his Doctoral study. He also elaborated on the prevalent bamboo ISO standards that can be referred for construction and detailing of Bamboo. The session was concluded by presentations from Mr. Sanjeev Karpe, who shared his experience on bamboo construction in India, and Dr. Madhura Yadav shared overview of research on Bamboo as sustainable material for construction (Bamboo Research and Training Institute), application of bamboo for road construction, along with proposed projects, like the winning competition entry of Super Sky Scraper designed in bamboo, in future cities lab Singapore and bamboo city designed by Dayong Sun and Chris Precht, Architectural studio Penda. Prof. (Dr.) H. Ravishankar Kamath, registrar, MUJ delivered the valedictory address and thanked all the speakers and participants for making the programme a success.

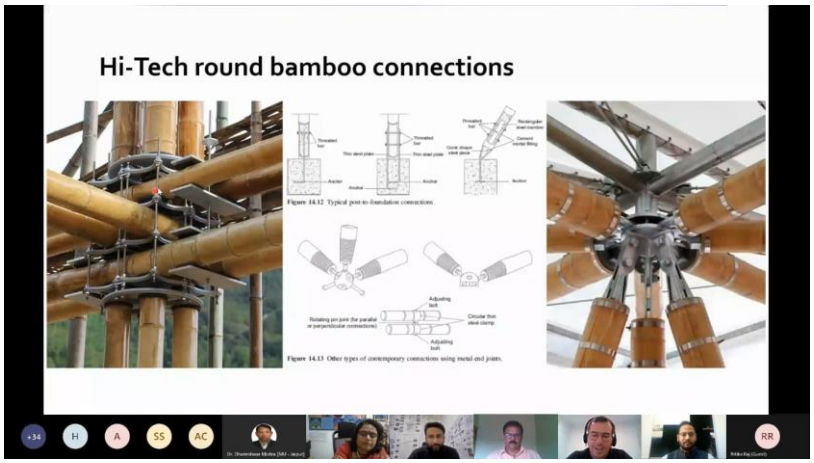

Figure 10 Advanced Bamboo connections discussed by Dr. Mateo Gutierrez

Figure 11 Bamboo Skyscraper entry discussed by Prof. (Dr.) Madhura Yadav

Figure 12 Participants and Experts in the Programme

List of Attendees:

S.no.	Name of Participant
1	Aashima Gupta
2	Aayushi Sharma
3	Abdurrahaman
4	Abhinandan Verma
5	Abhinav Chaturvedi
6	Ahmed Haroon
7	Akshita Joshi
8	Anirban Pal
9	Anjali Agrawal
10	Anjali Kawatra
11	Anjaneya Sharma
12	Ankur Kuda
13	Antima Kuda
14	Anupam
15	Apoorva Agarwal
16	Ar. Hrishikesh Khandekar
17	Ar. Kiran Kolhe
18	Arpit Khandelwal
19	Avanish Singh
20	Ayush Shukla
21	Ayushi Maurya
22	B V Ramesh
23	Bibhu Kalyan Nayak
24	Bineet Chhajer
25	Deepali Yadav
26	Dhaneshwar Mishra
27	Dr Bhavna Tripathi
28	Faiz Ahmad
29	Harsh Sharma
30	Hrishikesh Khandekar
31	Jabiulla. T
32	Jai Prakash Mahaur
33	Joydeep Sengupta
34	Jyoti Yadav
35	Jyotsna Mishra
36	Karan Rane
37	Karthikeyan K H

38	Kavita Pradhan
39	Kriti Yadav
40	Kush Jee Kamal
41	Kushal Kumar Dubey
42	Madhvi
43	Manish Sharma
44	Milind Deshmukh
45	Mohit Kumar Agarwal
46	Neha Saxena
47	Prashant Atmaram Date
48	Preethi Agrawal
49	Prof. Keshav Kumar
50	Raunak Prasad
51	Rini Reejonia
52	Ritika Raj
53	Ritu Sharma
54	Sai Prasad Renugunta
55	Samir Jamatia
56	Shanil Nilesh Agarwal
57	Sharath R Nayak
58	Shivanand Singh
59	Shreyasi Vartak
60	Shyam Borawake
61	Sidharth Soni
62	Sneh Singh
63	Snehal Mathur
64	Somaina Islary
65	Sonali Jainn
67	Subhash Chandra Devrath
68	Surya Prakash B
69	Umashankar Kumar
70	Vaishnavi Kalzunkar
71	Vijay Barala
72	Yarlagadda Sai Greeshma
73	Yogesh Yadav