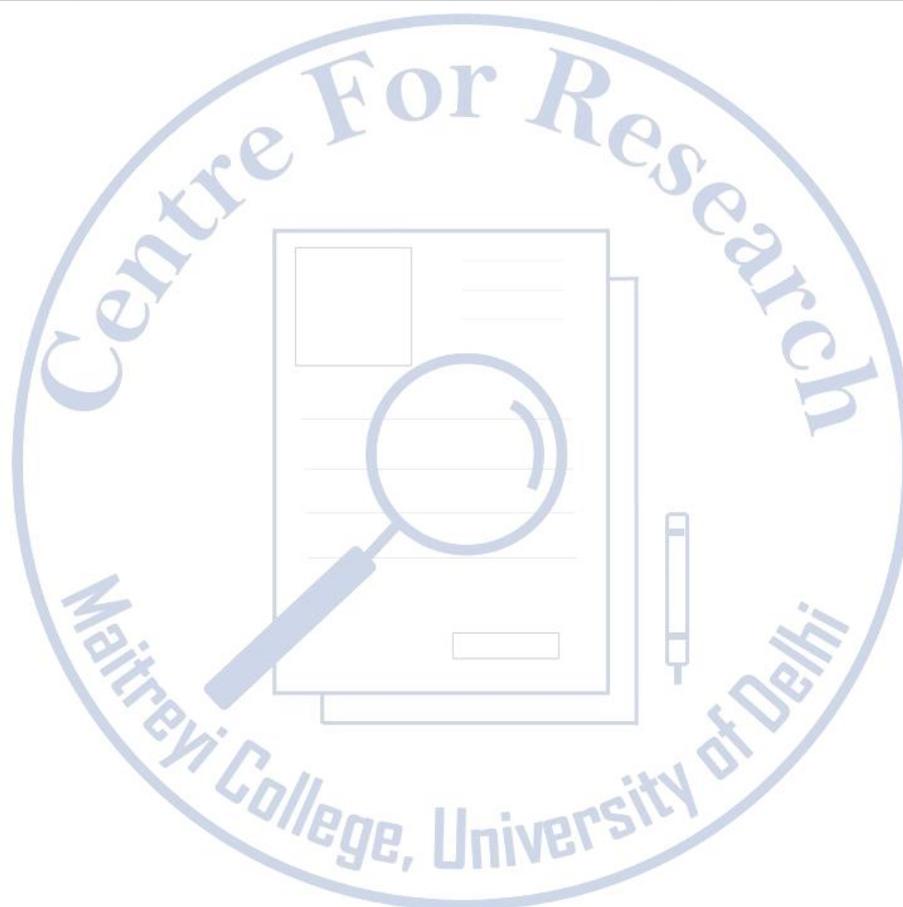


Report of Centre for Research 2019-20

S. No.	Name of Event	Page No.
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1. Summer Internship Programme 2019-20

The year 2020 started and continued just like any other academic year with classes in full swing since January, 2020. However, by March, 2020, the entire world was gripped by COVID-19 pandemic. With the classes switching to online mode during this period, the zeal to do research while struggling with the pandemic and lockdowns did not fizzle away faculty and students alike. This was evident from the whopping 52 projects that were carried out under the Summer Internship Programme, 2020 from May 20 to July 20, 2020 under the aegis of CFR and ACPG. A total of 66 faculty members and 154 students were engaged in these projects. As has been our practice, all the project reports were evaluated by external reviewers.

Projects carried out under SIP 2019-20

S.No	Department	Title of Project	Mentors	Students
I	Botany	A review analysis on COVID-19 virus, its symptom and the role of Chloroquine (CQ) and hydroxychloroquine (HCQ) in fighting the COVID-19 pandemic.	Dr Monika Heikrujam	Aanandita Bhagat and Jahnvi Tarun: B.Sc. (P) Life Sciences 2 nd year
	2	Probable strategies to combat corona pandemic by tracing its re-emergence from SARS virus	Dr Sarita Kumari	Nikita Goel and Ritika: B.Sc. (H) Botany 2 nd year
	3	Assessment of changes in air quality index after lockdown amid COVID-19 in India	Dr Pooja Baweja	Nisha Poddar and Sakshi Suman; B.Sc. (H) Botany 2 nd year
	4	Ayurveda: Boosting immunity as a remedy towards COVID-19- A statistical analysis	Divya Singh	Prapti Upadhyay and Niyati: B.Sc. (P) Life Sciences 2 nd year
	5	Transformation of life with COVID-19: Strategies for education and progress in vaccine development	Dr Sandeepa Singh	Avantika Pathak and Bandana: B.Sc. (H) Botany 2 nd year
	6	Review of Therapeutic Potential of Plant Secondary Metabolites in Treatment of Respiratory Viral Diseases	Dr Rama Sisodia and Dr Shweta Sharma	Simran Sharma, Asmita Pandey, Sakshi Singh and Aparna Rai: B.Sc. (P) Life Science 2 nd year
	7	Study of plants capable of suppressing viral diseases caused to humans in past and in present (Covid-19) using computational tools.	Dr. P. Kavita and Dr. Anamika Singh	Aayushi Gupta and Jaismeen: B.Sc. (H) Botany Hons 2 nd year Shalu Sharma and Vishakha: B.Sc. (P) Life Science 2 nd year

II	Chemistry 8	An Overview on Coronavirus disease (COVID 19) Pandemic – Environmental and Climatic Changes during Nationwide Lockdown	Dr Ramesh Kumari	Sapna and Parushni Singh: B.Sc. (P) Life Science 2 nd year; Sakshi: B.Sc. (P) Physical Science 2 nd year
	9	“Phytochemical Analysis of Selected Indian Medicinal Plants to Know the Antiviral Potential Against Novel Coronavirus”	Dr Ramesh Kumari, Dr Navneet Kishore and Dr Kiran Soni	Shreya, Riya Nimbekar, Sakshi, Rupa, Kajal, Sakshi Maan and Diksha: B.Sc. (H) Chemistry 1 st year
	10	“BRINGING LAB TO OUR HOME: BIO-ENZYME AND ITS MULTIUTILITY IN EVERYDAY LIFE”	Dr. Swarndeeep Kaur Sethi, Dr. Gita Batra Narula and Dr Kiran Soni	Ayesha Rahman, Priyansha Jain, Himanshi Chaudhary, Anjali Sharma and Versha Chaudhary: B.Sc. (H) Chemistry 2 nd year
	11	Computational study of Homochirality and Heterochirality and drug interactions with SARS COV-2 in biological system”	Dr. Kiran Soni, Dr Gita Batra Narula and Dr Shivalika Sharma	Keti Singh, Nishita, Aditi Govind Singh, Khushboo and Kajal: B.Sc. (H) Chemistry 2 nd year
	12	Nanoscale Perspective of coronavirus	Dr Gazala Ruhi and Dr Hema Bhandari	Stuti Dureja, Aditi Singh, Muskaan, Sakshi Sharma, Harshita Sharma: B.Sc. (H) Chemistry 2 nd year
	13	AYURVEDA- Pragmatic Plan against COVID-19	Dr. Geetika Bhasin and Dr. Ramesh Kumari	Leesha, Pramita, Shraddha Bhatla, Meeshika & Nitika: B.Sc. (H) Chemistry 1 st year
III	Commerce 14	COVID-19 and its Implication on Education System	Mrs. Nirmala Chauhan and Ms. Kritika Khurana	Vidhi Garg: B.Com. (H) 2 nd year; Ishita Singhal: B.Com (H) 2 nd year
	15	Impact of COVID-19 on Consumer Behavior	Dr. Madhu Jain and Ms. Anshi Goel	Sneha Singh: B.Com 1 st year
	16	The COVID-19 Crisis: A case for Universal Basic Income	Dr. Prachi Bagla, Ms. Apurva Setia	Ishika Goel and Sana Shamsi: B.Com (H) 2 nd Year
	17	How has COVID-19 impacted globalisation and work culture in offices? A study of India.	Ms. Laxmi	Pranjali Agarwal: B.A. (P) 3 rd year
IV	Computers 18	Skittles - An Online Shopping Website	Dr. Manju Bhardwaj and Dr. Shikha Badhani	Tanya Dhingra, Unnati Sharma , Kavita Sharma and Sneha Gupta: B.Sc.(P) Physical Science with computer science 2 nd year
	19	Exploring Data Science to Study Viral Pandemic of COVID-19 in 2020 (EDSSVC-2020)	Dr. Veena Ghuriani and Dr. Jyotsna Talreja Wassan	Astha Moolchandani, Deena Shakeel Khan, Muskan Verma & Shivani Mehta: B.Sc. (P) Physical Science with Computer Science 1 st year

	20	Integrating e-resources with college website	Dr. Veena Ghuriani and Ms. Rupali Ahuja	Ojassvi Nagpal: B.Com (P) 1 st year; Niyati: B.Sc. (P) Life Sciences 2 nd year); Shubhi Singh: B.Sc.(P) Life Sciences 3 rd year and Kavita Chaudhary: B.Sc. (H) Botany 3 rd year
V	Economics 21	Economics of Food during a Pandemic	Artika Vats and Antima Jain	Astha Mukherjee, Gopika Venugopal, Mahak Kohli and Medhawi Rajgaria: B.A (H) Economics 2 nd year
	22	Impact of COVID-19 on labour migration in India	Dr. Saroj Rani	Pratishtha Singh and Garima: B.A. (P) 2 nd year
	23	The Impact of Corona Virus Pandemic on the Exchange Rate of Indian Rupee	Dr. Priti Mendiratta Arora	Sneha Agarwal, Vaishnavi Sah & Parul Varma: B.A.(H) Economics 2nd year
	24	Crimes In The Time Of COVID-19	Dr. Priti Mendiratta Arora	Ruchika Rao & Sanskriti Agrawal: B.A. (H) Economics 2nd year
VI	English 25	Wounds of the Mind: The Trauma of Pandemics in Twentieth Century Literary Narratives	Dr M Tianla	Maumil Mehraj: B.A. (H) English 2 nd year
	26	Back Inside the Lakshman Rekha: Impact of COVID-19 Lockdown on Working Women	Ms Richa Chilana	Palak Purwar and Alfisha Sabri; B.A. (H) English 2 nd year
	27	Mental Health in Times of COVID-19: An Analysis of the Impact of a Pandemic on One's Mental Health and the Role Literature and Art Plays Around It	Mrs Manisha Saluja (44)	Aakriti Agarwala: B.A (H) English, 2 nd year
VII	Hindi 28	COVID-19: Takniki Hindi Vigyan par Prabhav evam Badlav	Dr. Mamta Dhawan	Garima Gautam and Monika Saini: B.A. (H) Hindi 2 nd year
VIII	Mathematics 29	Mathematical analysis on COVID-19	Mr Pawan Kumar	Bhumika Papnai and Aadi Lochab: B.Sc. (H) Mathematics 1 st year; Nikita: B.Sc. (H) Mathematics 2 nd year; Simran Goyal: B.Sc. (H) Mathematics 3 rd year
	30	COVID-19: Pandemic Scare in the National Capital of India	Dr. Archana Paradkar and Dr. Neetu Arneja	Vaishnavi Panwar, Abantika Puhan and Yamini Yadav; B.Sc.(H) Mathematics 2 nd year
	31	Mathematical predictions for COVID-19 as a global pandemic	Mr Pawan Kumar (49)	Priya yadav, Priyanka sharma, Khushi Singh & Babita Mehra: B.Sc. (P) Physical Science with computer 2 nd year
IX	Physics 32	Coronavirus Pandemic: The setbacks to the physics community and its contribution towards the cause	Dr Swapna Ray Jain and Dr Neha Gupta	Muskan Verma: B.Sc. (P) Physical Science with Computer 2 nd year

	33	Quantum Computing For Fast Diagnosis and Treatment of Covid-19 and Other Diseases	Dr. Mansi Dhingra and Dr. Parul Yadav	Divya Singh, Vishakha Dwiwedi: B.Sc. (H) Physics 2 nd year; Preeti Sharma and Muskan Namdev: B.Sc. (H) Physics 3 rd year
	34	Role of Electromagnetic waves in detection and prevention of spread of COVID-19 and other virulent infections	Dr. Shalini LumbTalwar and Dr. Swapna Ray Jain	Komal, Anupriya, Varnika Chaudhary, Shubhangi Tiwari: B.Sc. (H) Physics 2 nd year
	35	COVID-19: Curse or blessing	Dr. Vasudha Agarwal	Sneha and Gunjan: B.Sc. (H) Physics 1 st year
	36	The nature's SOS: COVID-19	Dr Ritu Dhingra	Sadaf Esrar, Anjali Gupta, Saryu and Priyanka Yadav: B.Sc. (H) Physics 2 nd year
	37	India emerging as a world leader in tackling Covid 19	Dr. Ritu Dhingra	Vani Tiwari, Shranya Chauhan, Mani Bhardwaj: B.Sc. (H) Physics 2 nd year
	38	A Detailed Study of COVID-19 Scanning and Tracking Devices	Dr. Prajwalit Shikha	Sonam and Komal Kumari Meena: B.Sc.(H) Physics 2 nd year
	39	Physics in the time of COVID - 19	Dr. Savvi Mishra	Ms. Smile Gandhi, Ms. Shivangi Dubey: B.Sc. (H) Physics 3 rd year
	40	An approach to detect 'Covid-19' through Artificial Intelligence (AI)	Dr. Neelam Singh	Ms. Smridhi Chawla and Ms. Bhumika Chawla: B.Sc. (H) Physics 3 rd year
X	Political Science 41	Marginalised population & policy responses of 6 Indian states amidst COVID-19 (March 2020-May 2020): a comparative analysis	Dr Uma Nabhi	Bery Sarma and Lavanya Topa: B.A. (H) Political Science 3 rd year
	42	COVID-19 and the challenges to the Indian federal structure: An analytical review	Dr Uma Nabhi	Sakshi: B.A. (H) Political Science 3 rd year
XI	Punjabi 43	-Kel karende hanjh noh achinte baaz pae Frid-bani de paripekhh vich vartmaan corona sankat de dauran manukhi maansikta da adhiyan-vishleshan (Implications of coronavirus crisis on human mental health)	Dr Surinder Kaur Malhotra and Dr Manisha Batra	Shagun Sharma: B.A. (P) 3 rd year
XII	Sociology 44	A sociological study of Mental health of students during COVID-19 pandemic	Dr Rashi Bhargava	Nayan Borgohain, IL Prathyusha Naidu, Samiksha Bhatnagar, Shipra Lakra and Vani Shukla: B.A. (H) Sociology 2 nd year
	45	Living on the Margins: An Interpretative Study of Sanitation Workers amidst COVID-19	Mr. Pawan Harsana & Ms. Sana Khan	Anmol Chugh, Nikita Sarma and Anjali Bisht: B.A. (H) Sociology 3 rd year

	46	COVID-19 and Spanish flue: A comparative study from the lens of modernisation	Mr Pawan Harsana & Ms Sana Khan	Rhea Kad: B.A. (H) Sociology 2 nd year Atiriya Sharma, Ananya Aniruddh, Sanghita Hazarika: B.A. (H) Sociology 1 st year
XIII	Zoology 47	Psychosocial Impact and Changes in Sleep Quality during COVID-19 Pandemic: A cross-sectional study in India	Dr Meena Yadav	Ritika Kalra and Lavanya Ranjan: B.Sc. (H) Zoology 2 nd year
	48	Diet preferences and susceptibility to animal food-borne infectious diseases.	Dr. Rakhi Gupta, Dr. Archana Aggarwal	Shreya Rawat, Kamakshi Upreti, Radhika Kumari, Padmaakshi Chakravartty, Anushka Kukreti, and Bhumika Tiwari: B.Sc. (P) Life Science 1 st year
	49	COVID-19 and Comorbidities	Dr. Luni and Tejendra Kumar	Ishita Kalshyan, Disha Bhanwal: B.Sc. (H) Zoology 2 nd year; Neha Chhillar, Rupika Gaba: B.Sc. (P) Life Sciences 1 st year
	50	Comparative genomic and phylogenetic analysis of spike and nucleocapsid proteins of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and 9 other taxonomically related coronaviruses using in-silico tools	Dr. Jaspreet Kaur	Shubhangi Sharma and Srishti; B.Sc. (H) Zoology 2 nd year
	51	COVID-19 Lockdown and Pedagogy	Dr Renu Gupta, Dr Archana Aggarwal	Annu Kumari, Drushti Sable, Anamika Sharma, Preena, Rishika Maji: B.Sc. (H) Zoology 2 nd year
	52	COVID-19 and Herbal Remedies: Perception and Self-Use	Dr Shilpa Bharti	Muskan Bhardwaj and Mreenalini Singh: B.Sc. (P) Life Science 2 nd year
	Total	52	66	154

Convenor
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2. SIP Presentation Series 2019-20

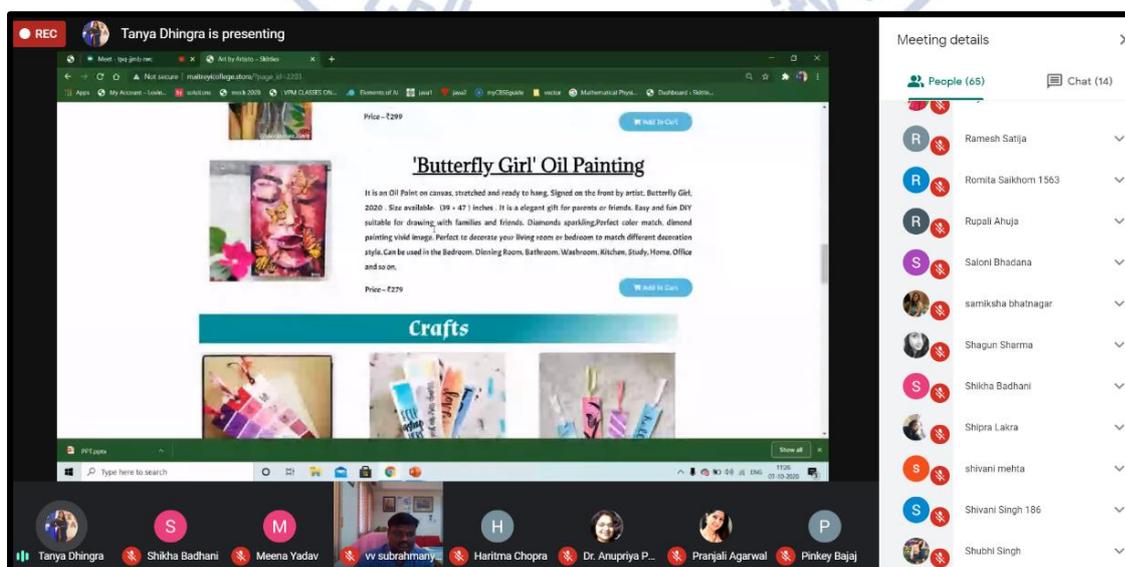
Based on the review of SIP reports, selected projects were presented in the SIP presentation series held on October 7th, 9th and 10th, 2020 before external jury members. All the presentations were held in virtual mode.

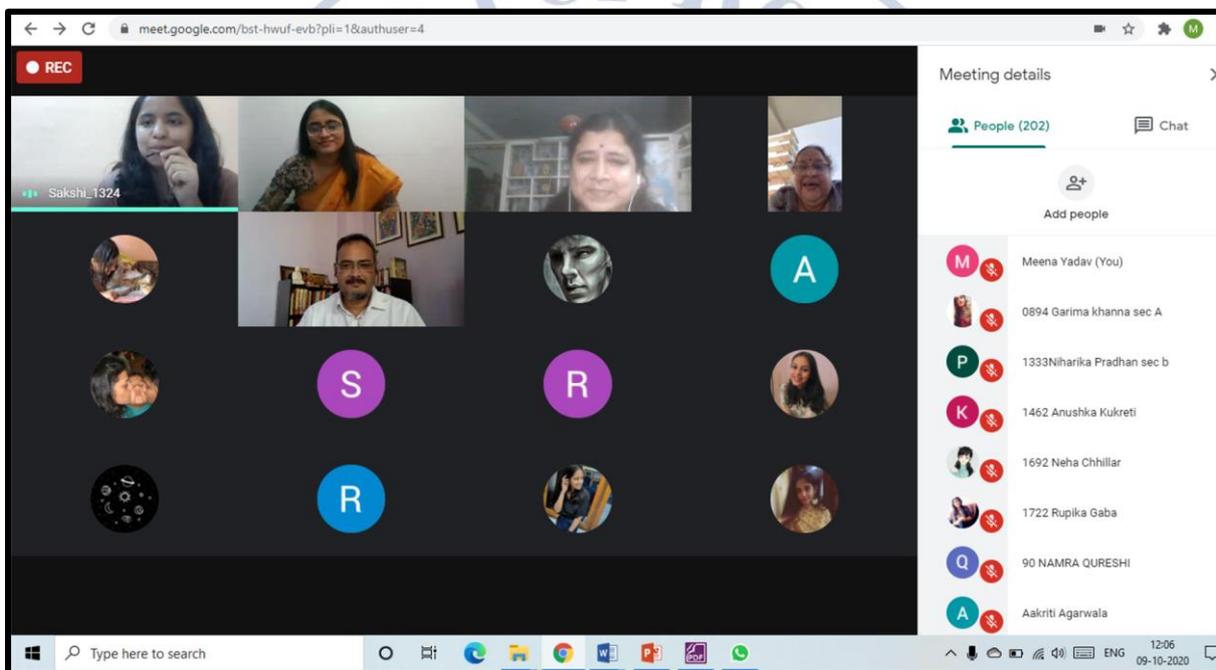
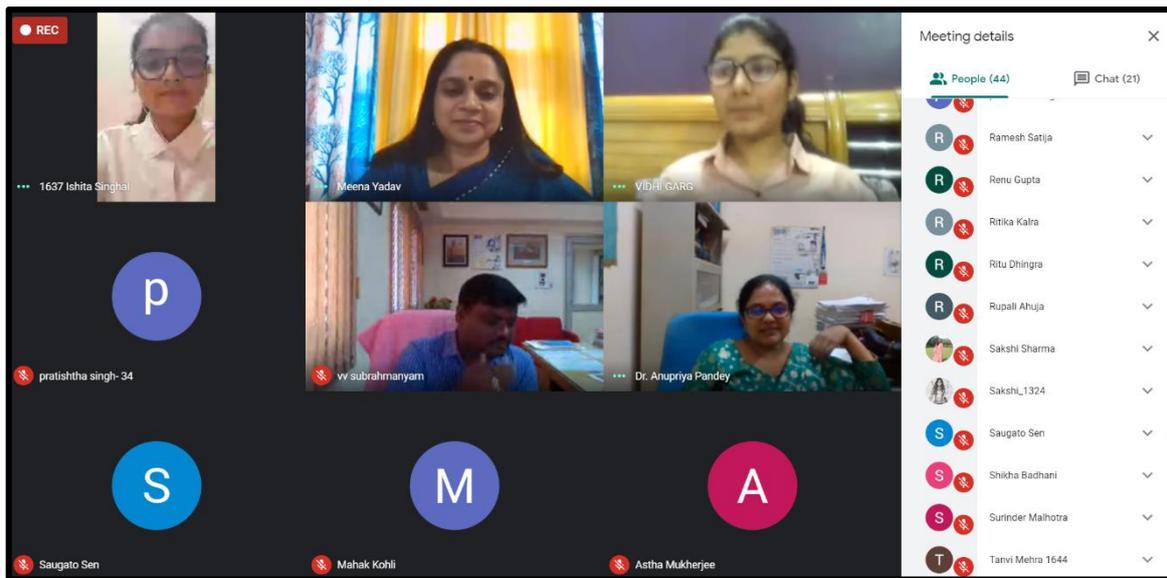
On October 7th, Project numbers 14, 16, 17, 18, 20, 21, 22, were presented in SIP presentation series I in front of Jury members Prof. V.V Subrahmanyam, IGNOU, Mr. Saugato Sen, IGNOU and Dr. Anupriya Pandey IGNOU. There were 65 participants.

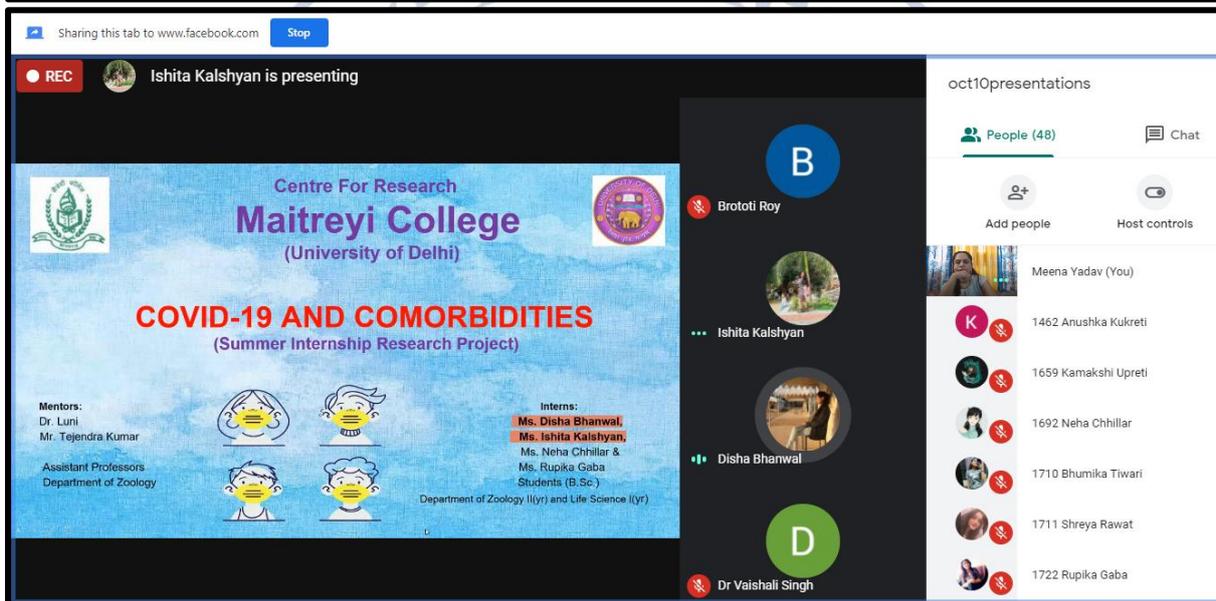
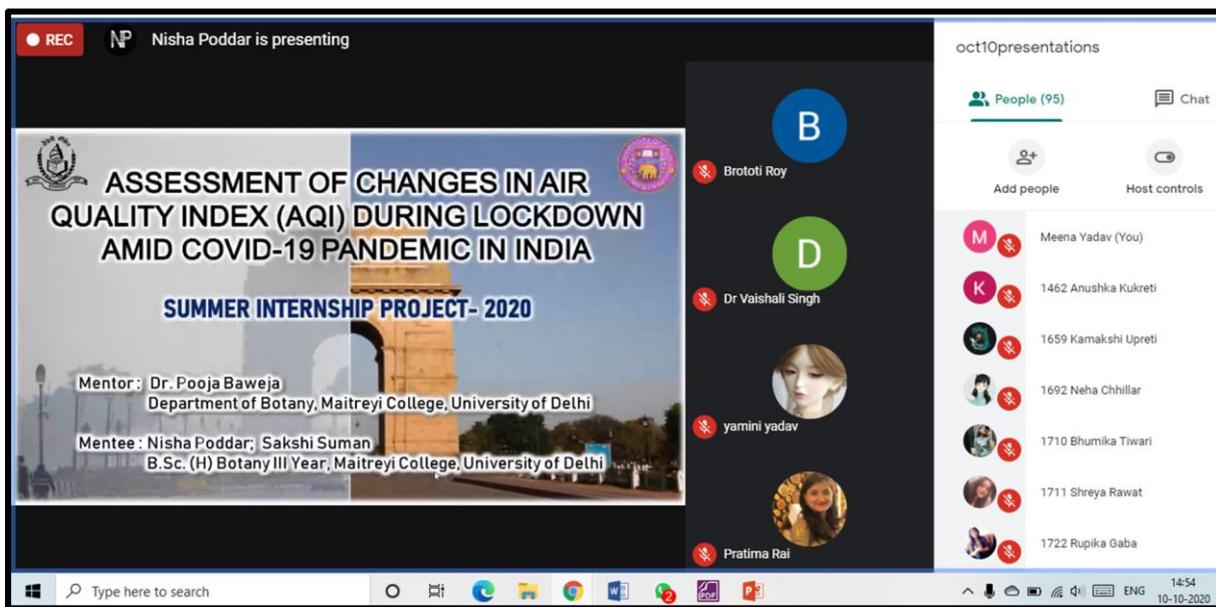
On October 9th, Project numbers 27, 41, 42, 43, 44 and 46 were presented in SIP presentation series II in front of Jury members Prof. Balaganpathy Devarakonda, Department of Philosophy, DU; Dr. Manjeet Kaur, Department of Punjabi, SGGSCC, DU and Dr Sanghamitra Choudhury, Department of Political Science, Sikkim Central University. There were 202 participants. On October 10th, Project numbers 3, 5, 11, 12, 29, 30, 36, 37, 48 and 49 were presented in SIP presentation series III in front of Jury members Dr. Suman Govil, Ex-Sr Advisor, DBT, Ministry of Science & Technology, Government of India and Prof. Vaishali Singh, Guru Govind Singh Indraprastha University, Delhi. There were 95 participants.

The projects were presented in online mode and the projects titled 'The COVID-19 crisis: A case for Universal Basic Income', 'The Sociological Study of Mental Health of Students during COVID 19 Pandemic' and 'COVID-19 and Comorbidities' were judged the best projects for the respective days.

Glimpse of the SIP presentation series 2019-20







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3. Educational Trips

The Centre for Research also funded **one-day Educational trips** for the Departments during the academic session 2019-20. Ten educational trips, funded by CFR, were organized by different departments in 2019-20.

Students and Faculty members took this unique opportunity to explore places of scientific, economic, social and historical interest. The Commerce Department organized a trip to the Yakult Factory whereas the Chemistry Department organized a one-day trip to National Physical Laboratory to name a few. It was an excellent learning opportunity for the students and enhanced their practical knowledge.

S. No.	Department	Date of trip	Place	Number of students
1	Chemistry Department	30th September, 2019	National Physical Laboratory (CSIR)	11
2	Chemistry Department	4th October, 2019	Water treatment plant, Sonia Vihar	31
3	Commerce	25th September 2019	Yakult Factory, Haryana	86
4	English	1st October 2019	Jormal Periwal Memorial Senior Secondary School for the Blind, New Delhi.	32
5	Hindi and Punjabi	7th October 2019	Pravasi Bhartiya Kendra, Chanakya Puri, New Delhi	42
6	History	25th September 2019	Agra Fort	76
7	Mathematics	26th September 2019	Iscon Temple and Botanical Gardens , Noida	110
8	Physics	24 th October, 2019	IUAC, Vasant kunj	41
9	Political Science	27th September 2019	Dhauj, Faridabad	72
10	Sociology	29th January - 2nd February 2020	Chirawa Rajasthan (Pilani)	42



Yakult Factory, Haryana

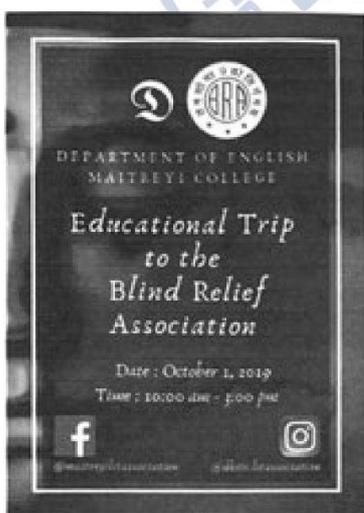
NPL VISIT 2019



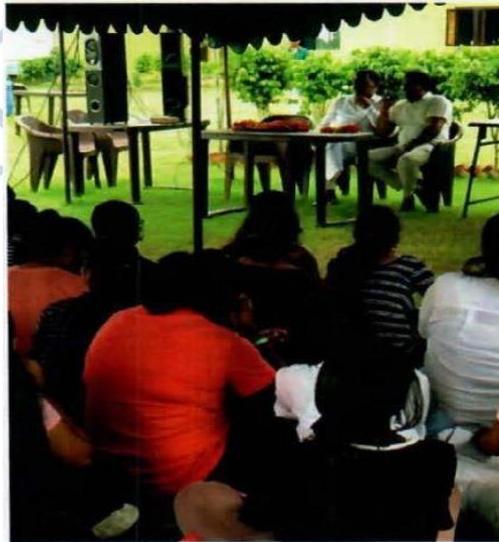
National Physical Laboratory, Delhi



Chirawa, Rajasthan



Normal Periwal Senior Secondary School for the blind



Dhauj, Faridabad



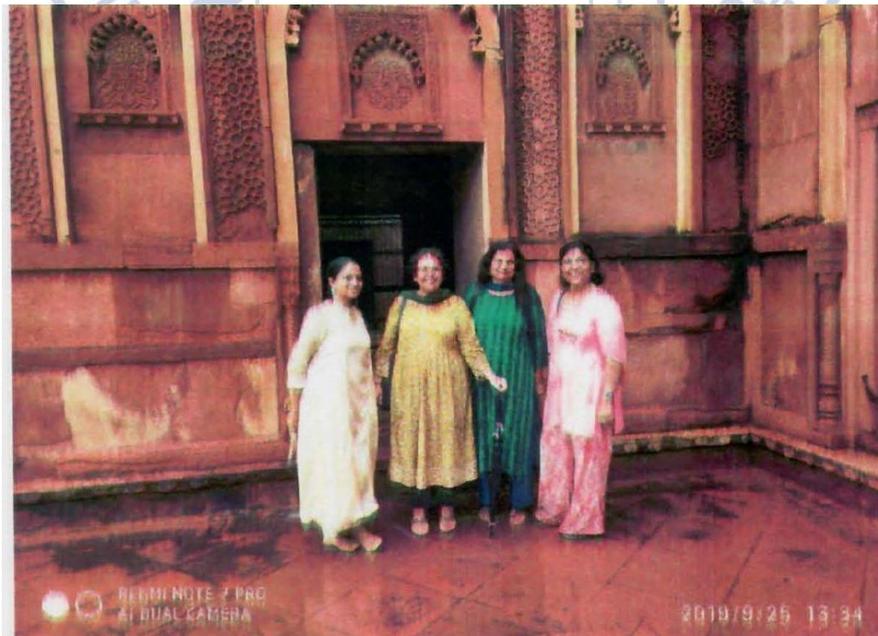
Iskcon Temple, Noida and Botanical Garden, Noida



Water Treatment Plant, Sonia Vihar, Delhi



Pravasi Bhartiya Kendra, Chanakyapuri, Delhi



Agra Fort, Uttar Pradesh



IUAC, Delhi

Convenor
CFR

Coordinator
CFR

