

Report on Five Days of Self Sponsored Online Short Term Course “Prospects of Infrastructure Development in the Construction Sector” held from 22-26 May 2023 in CED, NITJ

Theme of the STC

The Civil Engineering Department has organized a Five Day Self-Sponsored Online Short Term Course (STC) on the topic **“Prospects of Infrastructure Development in the Construction Sector” held from 22-26 May 2023**. The course was designed to disseminate the knowledge in the domain of Civil Engineering in general and role of Civil Engineers with respect to construction techniques in particular. The main objective of the course was to demonstrate the latest trends, case studies, field challenges and related remedies in different fields of civil engineering.

Scientists, Academicians, Research Scholars and Masters Students from academia of reputed NITs and IITs as well as scientific organizations participated in this online STC. The program was designed in such a way to achieve the set objectives of the course in stipulated period of five days and to make the participants benefitted at the end.

The STC was enlightened by the presence of experts from highly esteemed government organizations, research centers as well as industry such as Airport Authority of India (AAI), Central Road Research Institute (CRRI), Northern Railways, National Thermal Power Cooperation (NTPC), Bhakra Beas Management Board (BBMB), Punjab Water Supply and Sewerage Board (PWSSB), Public Works Department Buildings & Roads (PWD B&R), PWD Irrigation, Punjab Urban Development Authority (PUDA) and Northam Enterprises.

Following themes were covered under this phase:

1. Latest trends in Water supply and sewage treatments
2. Hydro projects and silt management
3. Construction and maintenance of flexible pavements
4. Airfield pavements
5. Road infrastructure
6. Development of township with building by laws
7. Challenges in construction of tunneling and associated works
8. Irrigation projects and their advancements
9. Concept of circular economy.

Itinerary of the STC

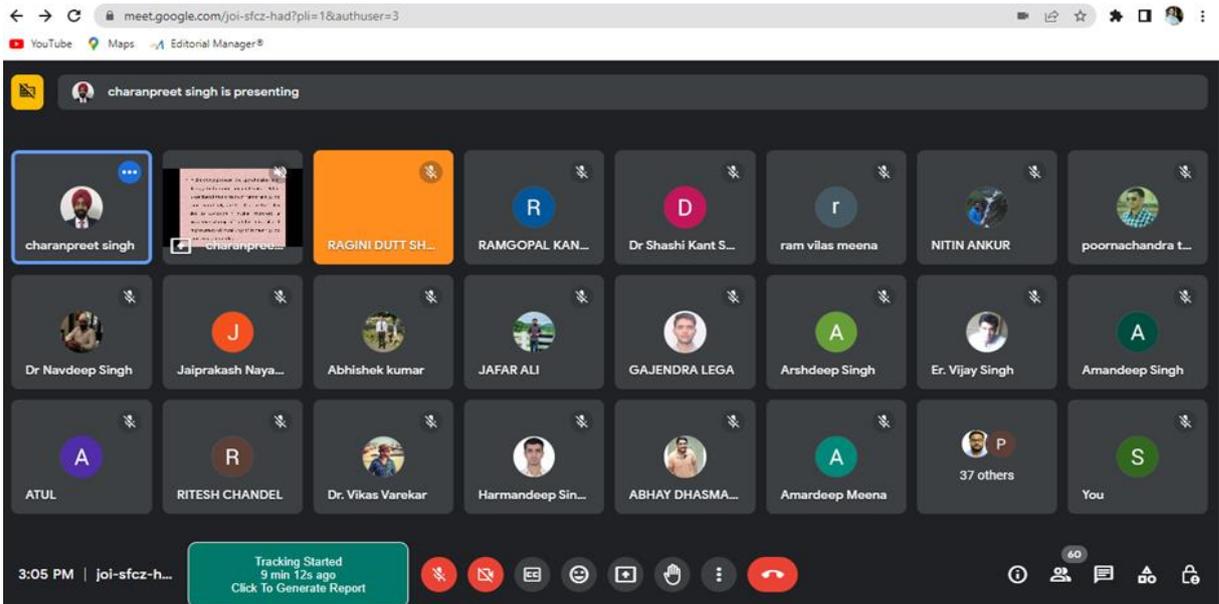
First day:

On the first day, the Online STC was inaugurated by the Honourable Head of Civil Engineering Department Prof (HAG) A K Agnihotri as its chief guest. The organising team of the STC, Dr Navdeep Singh, Dr Shashi Kant Sharma and Dr Neelam Rani were present along with Prof (HAG) S P Singh. As the Inaugural Speaker, Er Jitin Vasudev, Executive Engineer, Punjab Water Supply & Sewerage Board Chandigarh was felicitated by the organising team.

Dr Navdeep Singh briefly introduced the key objectives and themes of this Self-Sponsored One Week Online Short-Term Course. He also briefly introduced the eminent speakers and offered warm welcome to the participants. Dr A K Agnihotri shed light on some of the recent advancements in the area of construction sector. Dr S P Singh also graced the inauguration with his valuable insights on the need of familiarising the young students, academicians, research scholars with the recent advancements and challenges faced in construction of civil engineering structures.

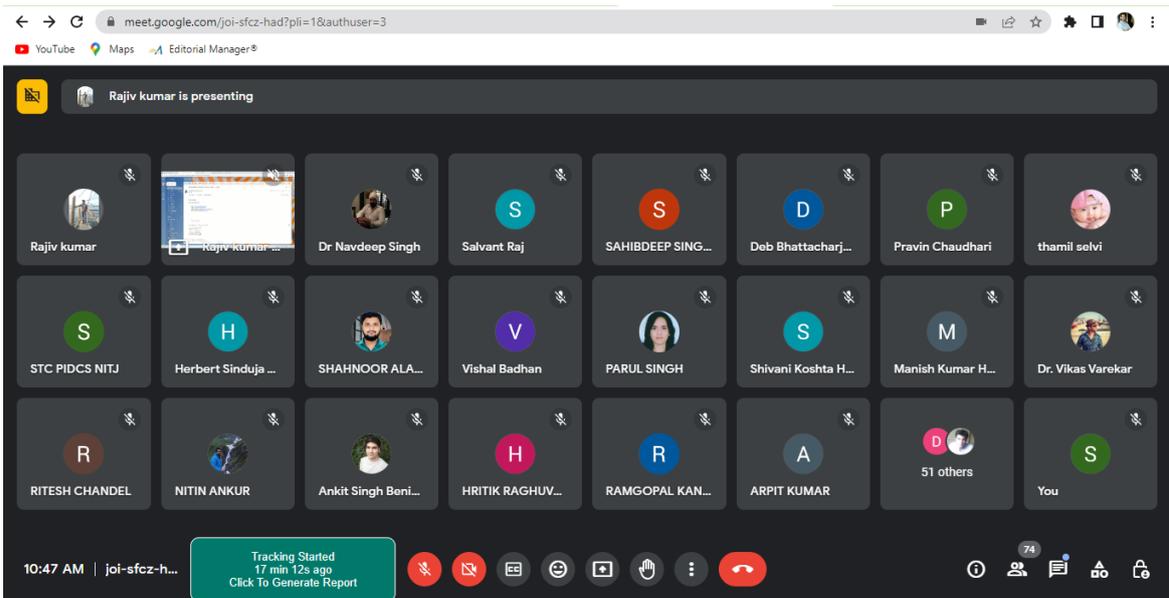
After inauguration Er Jitin Vasudev, Executive Engineer, Punjab Water Supply & Sewerage Board Chandigarh (PWSSB) delivered expert lecture on the topic ‘Wastewater Management – Various Technological Advancements and Latest Trends’. He showcased the basics of the planning, designing and execution of water supply schemes, sewerage network execution and setting up of treatment plants in urban areas of Punjab. He briefly discussed construction of some of the ongoing water treatment plants in Jalandhar region.

In the afternoon session, Er Charanpreet Singh, Chief Engineer, Bhakra Beas Management Board delivered lecture on the topic ‘Hydro Civil Structures and Silt Management for Hydro Projects’ in which he highlighted the concepts of design, technical solutions to various hydro structures, analysis of instrumental data of dams, sedimentation studies and silt management, dam safety issues with special emphasis on Nangal dam, Nangal hydel channel, Bhakra and Pong reservoirs to fulfil the water requirement of partner states.

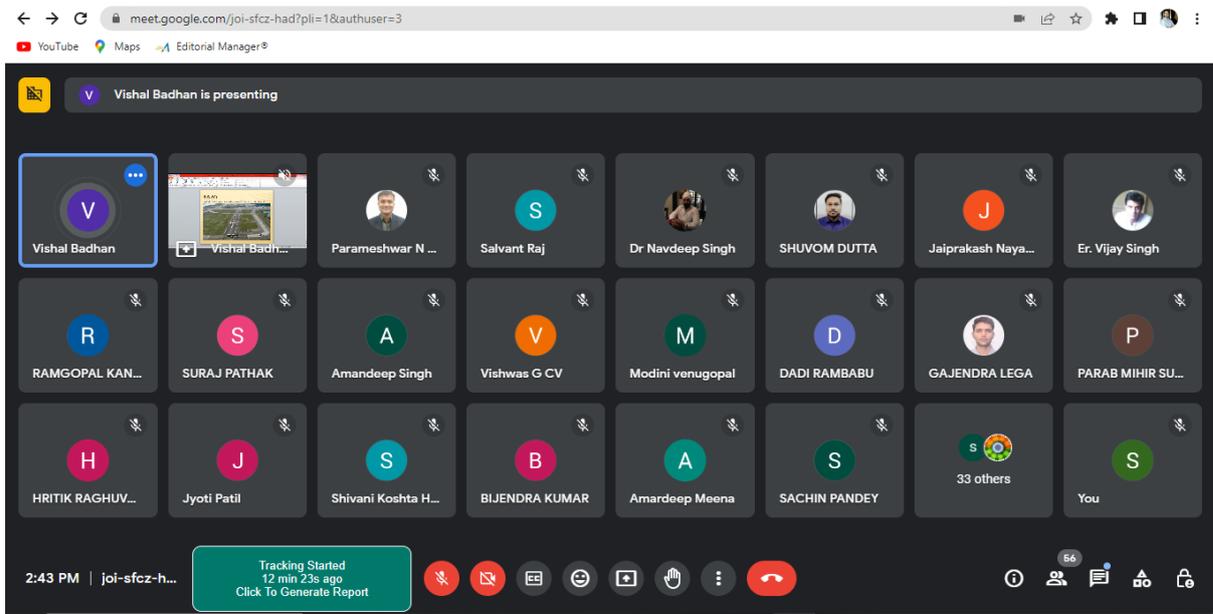


Second day:

In the morning session of day two, Dr Rajiv Kumar, Senior Research Scientist, Central Road Research Institute New Delhi talked on the one of the most trending topic of concrete technology ‘Technology for flexible pavement construction and maintenance’ A lot of participants appreciated and acknowledged the efforts and the knowledge shared by Dr Rajiv Kumar. He covered the basics of flexible pavement design and maintenance of hot mix asphalt, warm and cold mix asphalt, pavement material characterization, characterization and mix design of reclaimed asphalt pavement, super-pave mix design, tribology of asphalt binders.

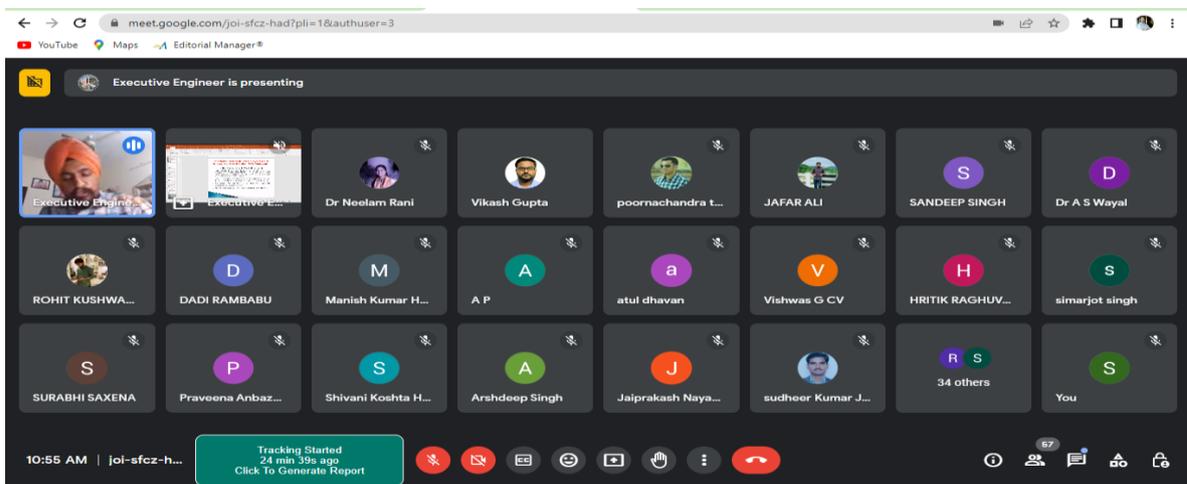


In the evening session of day two, Er Vishal, Senior Manager Civil, Airport Authority of India talked about the ‘Aerodromes and Airfield Pavements’. He brilliantly highlighted the concepts of construction of runway, terminal building, apron and link taxiway, advanced surface movement guidance and control system, radar tower, surface movement radar tower, terminal building, admin block of various national and international airports in Bathinda, Amritsar, Hindon, Safdarjung, Chitrakoot, Myorpur and Adampur.

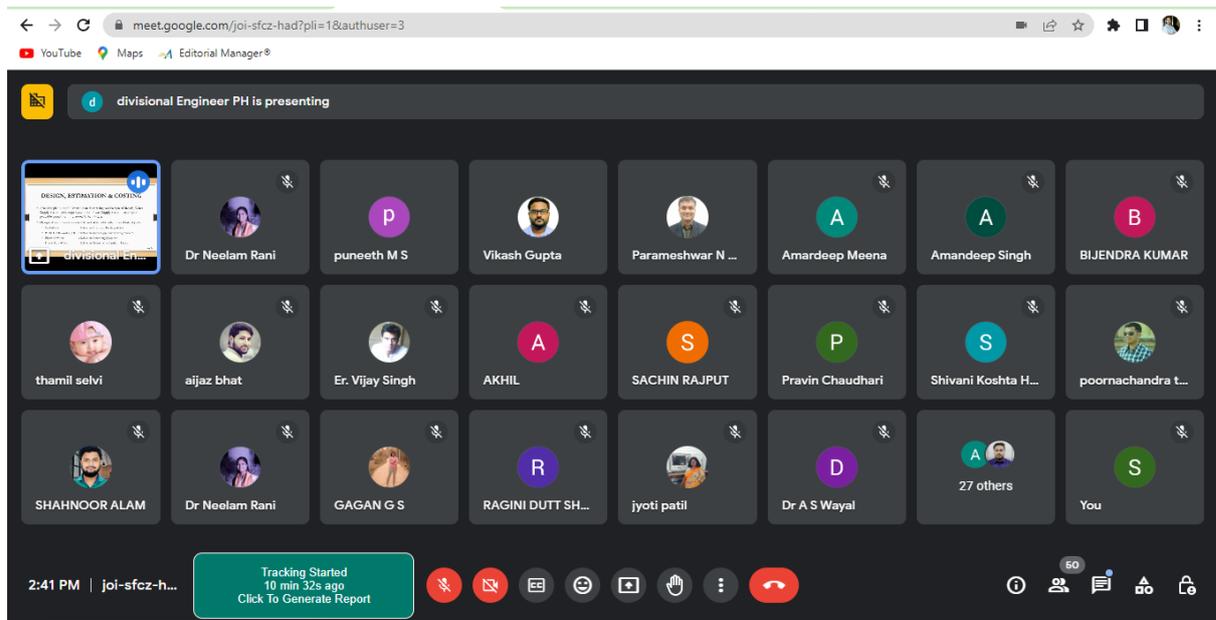


Third day:

Morning session of day three was honoured by Er Mandeep Singh, Executive Engineer, Public Works Department (B&R) Punjab who talked about the ‘Infrastructure Projects under NH Division’. Er Singh covered construction and key challenges faced in execution of major projects like four laning of Jalandhar-Moga-Barnala Road, Makhu-Ferozpur Road, and various link roads in Pathankot and Amritsar districts.

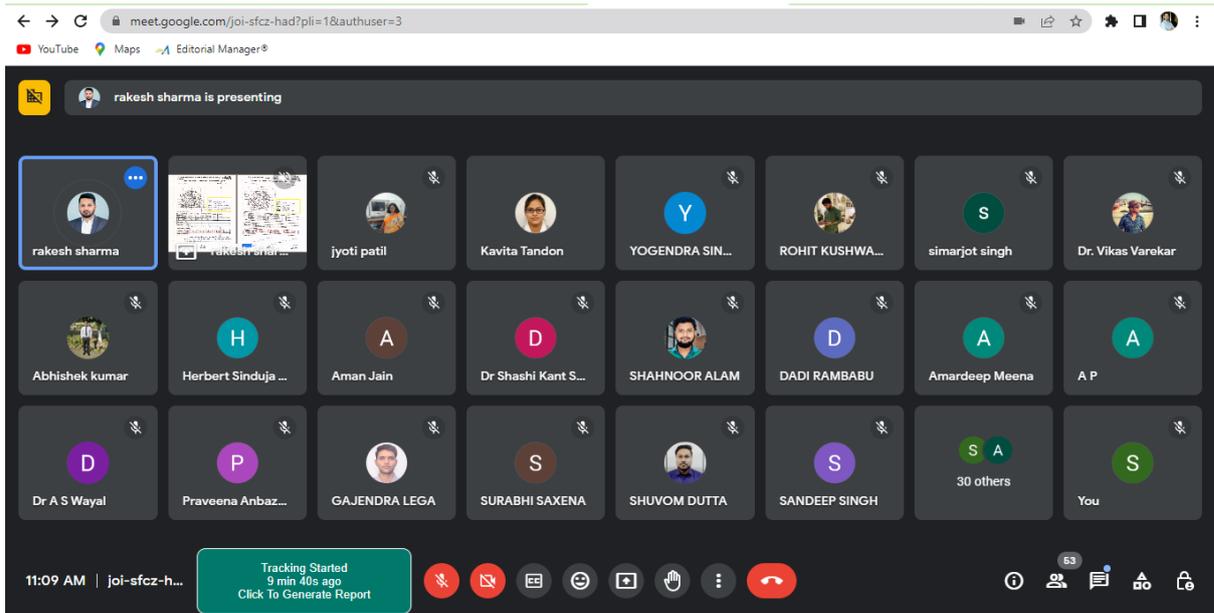


The evening session was illuminated by the presence of an eminent speaker, Er Gurpreet Singh, Executive Engineer, Punjab Urban Planning and Development Authority Chandigarh who delivered lecture on ‘How to develop a township’. Er Singh covered the efficient implementation of Building by laws in major projects like Heritage Street Golden Temple Amritsar. He also discussed the steps to ensure implementation of construction through building by laws in Amritsar region.

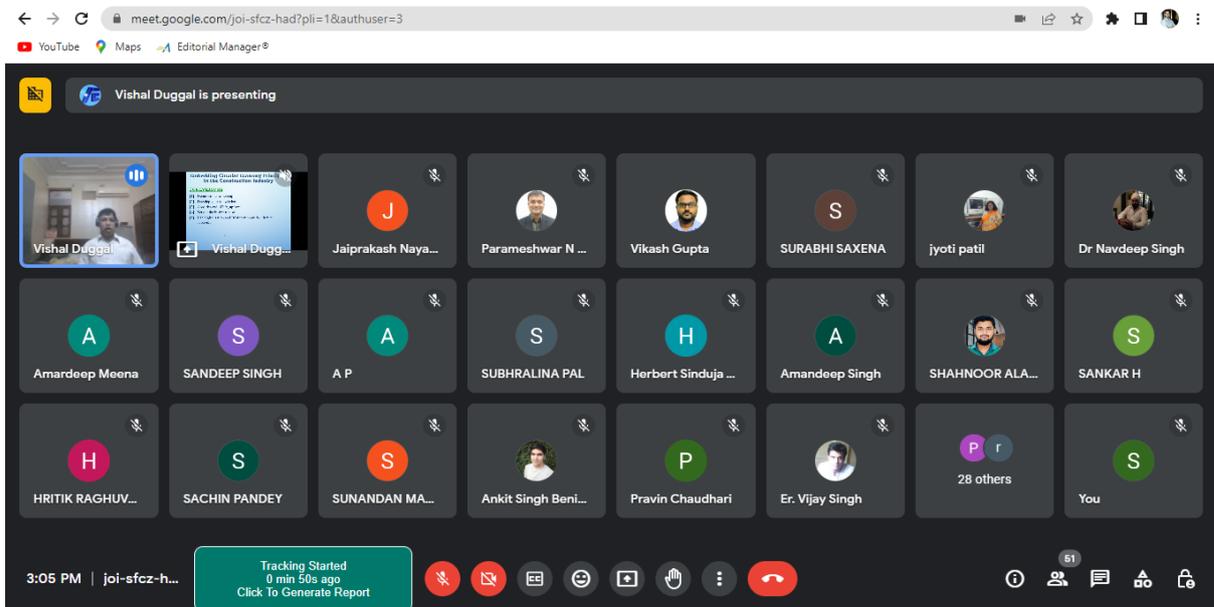


Fourth day:

In the morning session of fourth day, Er Rakesh Sharma, Manager, Civil Construction National Thermal Power Corporation Limited, New Delhi, delivered lecture on ‘Tunneling and other associated works’. Er Rakesh Sharma makes the participants familiar with the construction of Tunnels, dams, penstocks, drainage galleries, reservoirs spillway and related structures. He also dealt with concepts, challenges and remedial measures in construction of tunnels using Tunnel Boring Machines. He has also prepared several technical and audit reports. Further, Er Rakesh Sharma cleared the doubts of the participants in this highly interactive session.

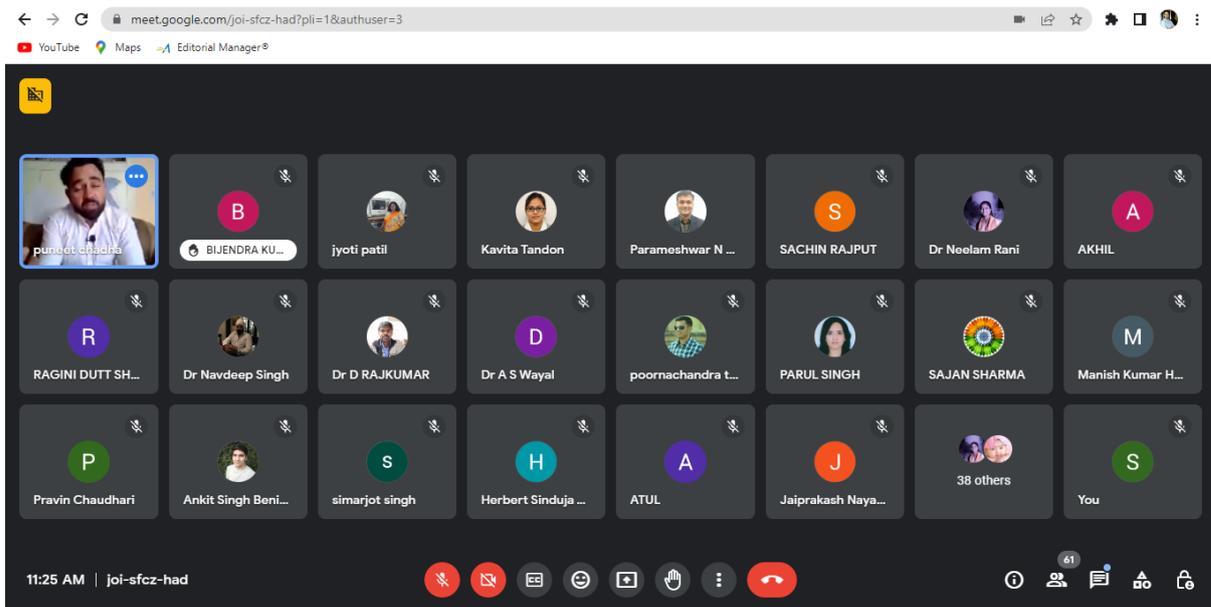


The evening session marked the lecture on ‘Circular Economy in Construction’ by Er Vishal Duggal, Director, Northman Enterprises, Punjab. Er Duggal demonstrated the concept of circular economy that targets to build a healthy system by gradually decoupling economic activity from the consumption of finite resources. He also discussed the importance of designing out the waste and pollution, keeping the products and materials in use and regeneration of the natural systems. He highlighted the steps required to embed the circular economy principles in the construction industry.

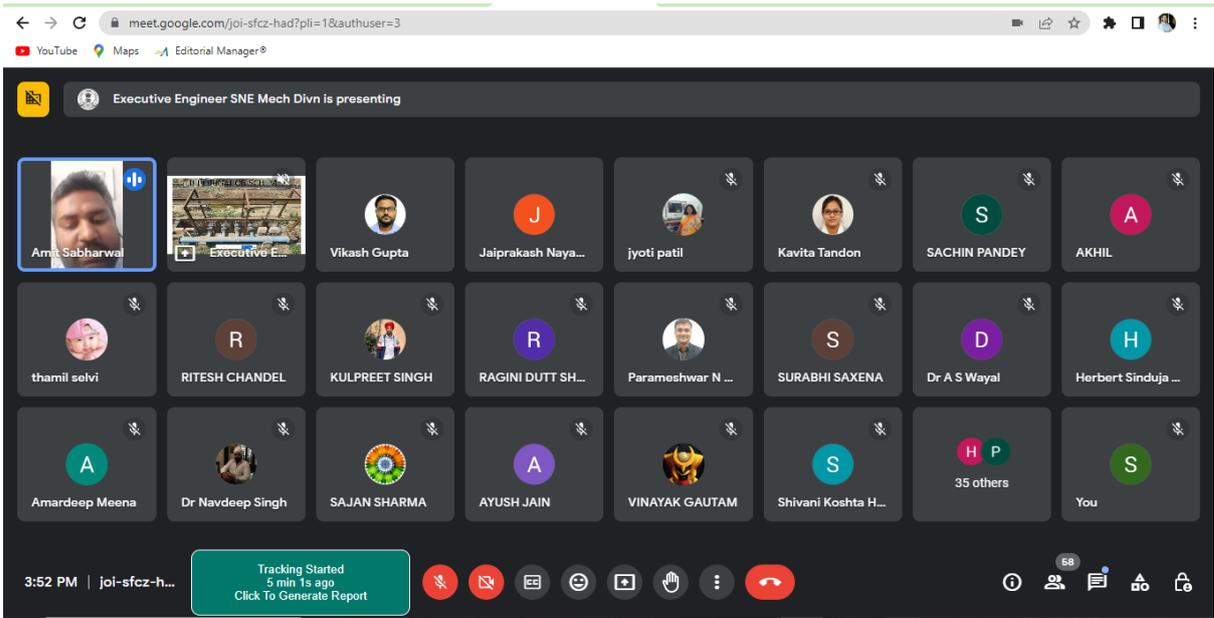


Fifth day:

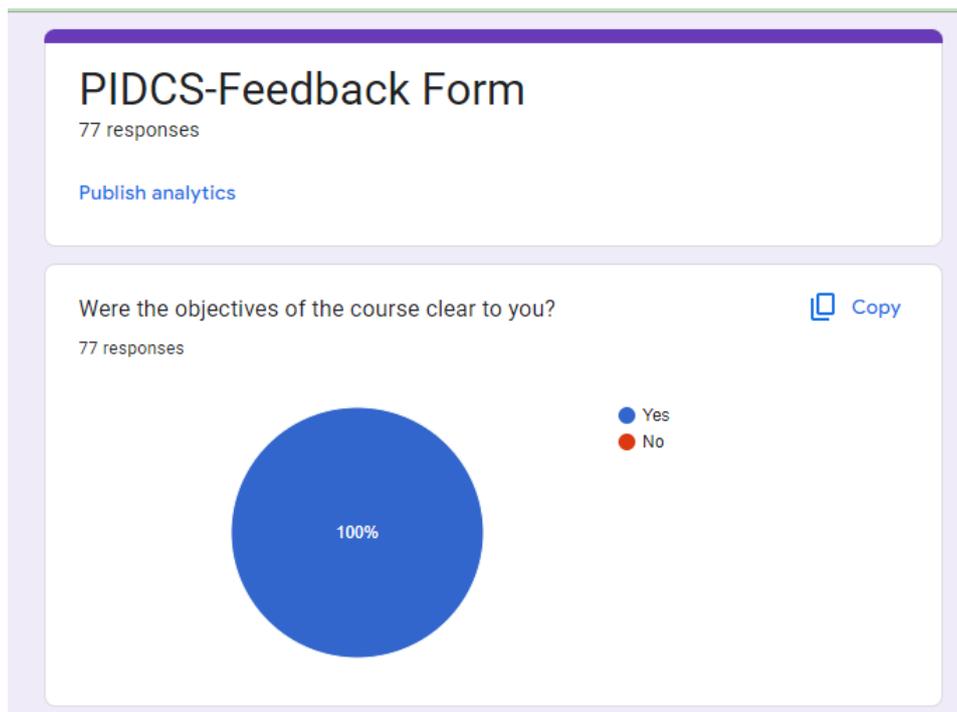
In the morning session, Er Puneet Chadha, Senior Section Engineer Northern Railways delivered lecture on 'Work life balance'. Er Chadha demonstrated the necessity of maintaining healthy balance between professional and personal life. He demonstrated some techniques to improve self-care and also emphasised the importance of giving time to family. In a very interactive session, participants also discussed their own experience and techniques that they follow for self-care. He inspired the participants to retain their career and passion simultaneously in life.



In the evening session Er Amit Sabarwal, Executive Engineer, Irrigation Department, Punjab delivered lecture on 'Ongoing and completed projects under Irrigation Division of Punjab'. Er Amit Sabarwal discussed regulation of water from the headwork downstream of Pong Dam, maintenance of 52 Nos Gates on Shah Nehar Headworks at Talwara(Hoshiarpur), Lift Irrigation Schemes, gravity Flow Distributaries, check dams and distribution networks and surface water projects. At the end, he concluded his presentation with fruitful interaction and cleared the doubts of the participants in this highly interactive session.



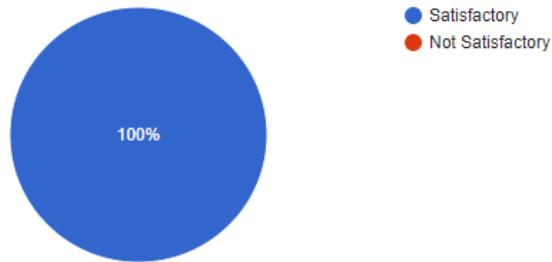
Participants Feedback:



The content and the case studies were

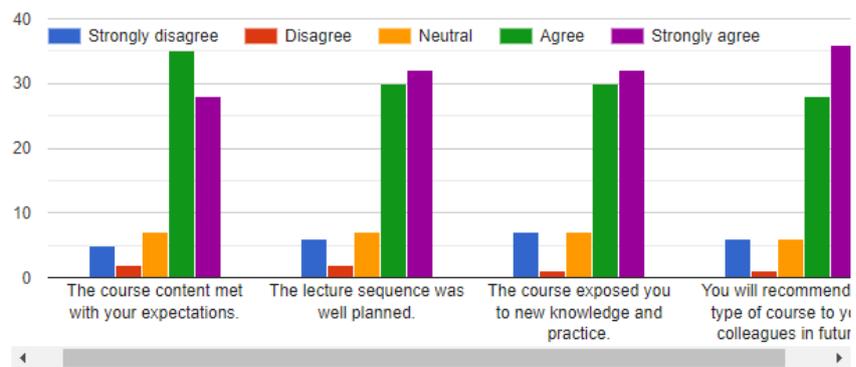
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77 responses



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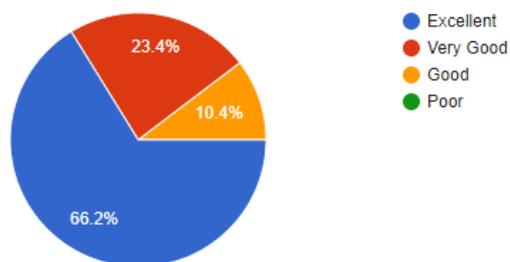
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Please give overall rating of the course:

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