

Report on the Faculty Development Programme on ICT and Emerging Technologies for Teachers, Teacher Educators, and Pupil Teachers in Teacher Education Institutions

The Faculty Development Programme on “ICT and Emerging Technologies for Teachers, Teacher Educators, and Pupil Teachers in Teacher Education Institutions” was organized by the Central Institute of Educational Technology (CIET), National Council of Educational Research and Training (NCERT), New Delhi, in collaboration with the Department of Education & Elementary Education, Mata Sundri College for Women, New Delhi. It was held on January 12, 2026 from 10 AM to 5PM in Mata Gujri Hall, Mata Sundri College for Women.

The **welcome address** was delivered by Prof. Harpreet Kaur, Principal, Mata Sundri College. In her address Prof. Kaur focused on the growing importance of Information and Communication Technology (ICT) and emerging technologies in the Indian education system, in alignment with the National Education Policy (NEP) 2020.

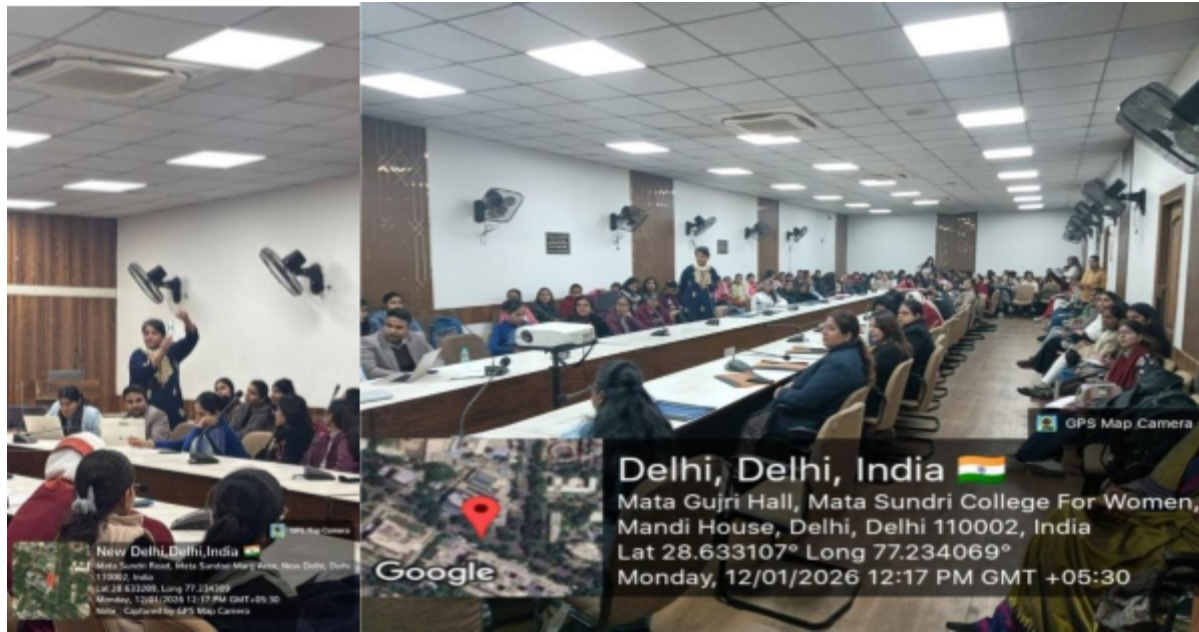
The **first session** was led by Prof. Shireesh Pal Singh, Professor in Education, CIET, NCERT. Prof. Singh emphasized how digital tools can enhance the teaching-learning process, support teacher’s professional development, and promote inclusive education, especially for Divyang learners. He highlighted several important digital initiatives recommended under NEP 2020. One of the key initiatives discussed was DIKSHA (Digital Infrastructure for Knowledge Sharing), which Prof. Singh described it as a “phygital” platform that connects physical textbooks with digital content through QR codes. These QR codes help students and teachers access digital resources easily, ensuring engaging and interesting learning. He also discussed PM e-Vidya, a comprehensive initiative that provides education through multiple modes. The session also focused on the role of technology in removing barriers to learning. Prof. Singh discussed various apps and assistive technologies developed for Divyang learners. One such initiative is the PRASHAST App, which helps in the early identification of disabilities. Other assistive tools and techniques were also discussed to improve accessibility and ensure equal learning opportunities for all students. The lecture also covered the guiding principles of NDEAR (National Digital Education Architecture), such as its federated structure, open standards, interoperability, and inclusivity across all States and Union Territories. Prof. Singh mentioned the Rashtriya Vidya Samiksha Kendra (RVSK), a technology-enabled education monitoring system that supports data-driven decision-making to improve educational quality and policy implementation.

The session concluded with the understanding that digital literacy and ICT-based teaching are no longer optional but essential for today's educators. By effectively using national digital platforms and emerging technologies, teachers can bridge learning gaps and contribute to a more integrated, efficient, and inclusive education system.



The **second session** of the Faculty Development Programme, on Use of AI/AR/VR and other ICT Tools, was led by Dr. Pranita Gopal. The session focused on bridging the gap between complex immersive technologies and practical classroom application. It aimed to understand Augmented Reality (AR), Virtual Reality (VR), and Artificial Intelligence (AI), providing us with the ethical frameworks and technical skills necessary to navigate the evolving digital landscape of modern education.

Dr. Pranita Gopal began by clarifying the fundamental differences between Augmented Reality (AR) and Virtual Reality (VR). Dr. Gopal highly recommended the Magic School Bus series, specifically the episode, 'Gets Crabby'. This series is particularly valuable because it is written by science teachers, ensuring that the virtual field trips depicted are pedagogically sound and scientifically accurate, making them excellent tools for classroom engagement. Beyond technical usage, Dr. Gopal emphasized the core skills teachers need to thrive in an AI-driven environment. In her session, Dr. Pranita Gopal emphasized that successfully integrating AI into education depends more on a teacher's mindset rather than their technical skill. The session concluded with the introduction of Google's NotebookLM, showcasing its ability to personalize learning and organize complex research efficiently. It can be used to make infographics, quizzes, short videos or podcasts. Dr. Gopal also discussed how EdTech companies are currently integrating these technologies into broader educational frameworks for better assessment. Ultimately, the session empowered the students by shifting the focus from mere tool adoption to the development of a wise, ethical, and energy conscious digital teaching practice.



The **third session** was conducted by Professor Tagaram Kondala Rao from NCERT, and the topic of the session was “Tools and Techniques in ICTE or Teaching and Learning. The speaker explained that ICT refers to the application of digital tools and technologies to make teaching and learning more meaningful, effective, and engaging. Professor Rao discussed how ICT has become an integral part of daily life, especially after the launch of Digital India in 2015. Sectors such as banking, education, and markets have become increasingly digital. He also mentioned initiatives like APAAR ID, which aim to bring transparency, efficiency, and ease in educational administration. The importance of ICT became more evident during the COVID-19 pandemic, when online classes, digital assignments, and virtual learning transformed conventional classrooms into more interactive and inspirational spaces. The speaker highlighted that the National Education Policy (NEP) 2020, especially Chapters 23 and 24, places strong emphasis on the integration of ICT in education. He also spoke about the National Educational Technology Forum (NETF), which aims to promote the exchange of ideas, innovations, and best practices related to educational technology.

Professor Rao explained the major uses of ICT in education. ICT increases student engagement, improves accessibility to learning beyond classroom walls through internet and digital platforms, enhances learning outcomes, and promotes collaboration and creativity. However, he strongly emphasised that technology should be used wisely and purposefully. The session also focused on future-ready skills required for teachers in the digital age. The speaker explained platforms like Google Classroom and Moodle, which encourage two-way communication, student engagement, assessment, grading, and

assignment submission. He also discussed SWAYAM courses as an important initiative for online learning and professional development. The session concluded with an interactive discussion providing valuable insights into the effective use of ICT tools for modern teaching and learning.

The **fourth session** of the Faculty Development Programme focused on Instructional Design for eContent Development. The session was led by Prof. Gaurav Singh, a Professor of Educational Technology at the Central Institute of Educational Technology (CIET), NCERT, New Delhi. A significant portion of the lecture was dedicated to understanding Intellectual Property Rights (IPR), specifically focusing on Open Educational Resources (OER) and licensing. Prof. Singh introduced the concept of OER teaching, learning, and research resources in any medium that reside in the public domain or have been released under an open license. This permits no-cost access, use, adaptation, and redistribution by others with no or limited restrictions. The session provided a deep dive into the Creative Commons licensing system. Prof. Singh explained the 4 Creative Symbols that dictate how content can be used.

He further highlighted CC0 (Creative Commons Zero) which meant No Rights Reserved. This license allows creators to give up their copyright and put their works into the worldwide public domain. Users can copy, modify, distribute, and perform the work, even for commercial purposes, without asking permission. A crucial distinction was made regarding video content on YouTube. Standard YouTube License: The creator retains all broadcasting rights wherein, others cannot upload the video elsewhere and can only share the link/URL. Creative Commons Attribution (CC BY) whereby the creator grants the YouTube community the right to reuse and edit the video. This allows other creators to remix the video content legally. Prof. Singh provided a curated list of repositories where we can find royalty-free images, audio, and video for their e-content development to avoid copyright strikes.

The session concluded with an emphasis on the ethical responsibility of educators to respect copyright laws. By utilizing OER and understanding the nuances of Creative Commons licenses (Attribution, ShareAlike, Non-Commercial, and Non-Derivative), we can create rich, diverse, and legal e-content. This knowledge is fundamental to the Instructional Design process, ensuring that course materials are sustainable and accessible.



The **Fifth session** began with a discussion led by Dr. Bharti Kaushik on the concept of assistive technologies, emphasizing that these technologies are not meant only for persons with disabilities, but for all learners. Dr. Bharti highlighted that accessibility and inclusion benefit everyone by improving learning experiences, participation, and equity within educational spaces. She clarified that assistive technologies should not be viewed through a lens of disability alone. Instead, they should be understood as a tool that enhances learning for diverse learners. Then she discussed how National Education Policy (NEP) 2020 emphasizes equity, inclusion, and accessibility in education. It advocates the use of technology to reach marginalized learners and supports the integration of inclusive practices. Furthermore, she discussed the Rights of Persons with Disabilities (RPWD) Act, 2016. Dr. Bharti discussed Universal Design for Learning and explained that lessons should be planned in a way that they are accessible for all learners from the beginning. Then the decision moved towards Digital Platforms and Learning Resources which can help teachers and students.

Several educational initiatives and resources such as e-Pathshala, digital textbooks were discussed. The session concluded with a discussion on the responsibility of educators, including references to Prashastha in designing inclusive lessons. Overall, the session provided a comprehensive understanding of accessibility and inclusion in education through policies, technology and classroom practices.