Department of Information Technology
Report on
Online Short-Term Course
on
Digital Tools for Teaching and Learning
11th-15th March

Day 1   **Date: 11-03-2024**

Session - I	**Topic: About the Programme**
	Course coordinators welcomed the attendees. All the remote center coordinators introduced themselves. Course coordinator Prof. Rakesh Wats briefed about the contents and usage of this programme for teaching-learning process.
Session - II	**Topic: Digital Ecosystem for Teaching and Learning**
	The world is changing all around us and we need to adapt to survive. The COVID-19 pandemic has resulted in the internet gaining a major role in remote working, online learning, shift to online classes, video streaming and other sudden changes. This also gives an opportunity to strengthen internet connectivity across India for better interaction between students and teachers. Teachers need to change their traditional teaching methods and become accustomed to evolving technology-centered digital ways

of teaching. This exclusive course is preparing teachers for the new journey, to help faculty members change their teaching style to meet the demands of this new digital world and help them achieve their teaching goals, motivate students to learn from isolation, promote teamwork in digital space and assess their knowledge with / without exams or assignments.

The digital tools discussed in these sessions will enable the faculty members to integrate online technologies into teaching and make the challenging activity into something simple by helping choose ethically appropriate digital pedagogy and benefit both students and teachers to achieve excellence in learning. Teachers, on the successful completion of the course can build a Learner Directed Digital Learning environment at institution with ease.

Session - III	**Topic: Content development using AR Tools** Creating pedagogically sound, interactive Augmented Reality (AR) experiences supporting situated and experiential learning remains a challenge to teachers without programming skills. To integrate AR in the everyday classroom, teachers need to be capable of designing their own immersive experiences for their students. Creating pedagogically sound, interactive Augmented Reality (AR) experiences supporting situated and experiential learning remains a challenge to teachers without programming skills. To integrate AR in the everyday classroom, teachers need to be capable of designing their own immersive experiences for their students. During the session some AR apps were discussed like Blippar which is Blippar's programme for educators and educational content providers. It allows them to make learning materials interactive via augmented reality. Blippar's product offers in-house bespoke AR content creation, with a focus on mobile and WebAR, and a proprietary content creation and publishing platform, Blippbuilder, that enables users to create and publish AR content themselves.

Day 2 **Date: 12-03-2024**

Session - I	**Topic: Designing Effective Presentation using Graphics and Animation for Teaching and Learning** Multimedia software has become an essential part of today's teaching and learning process. While many interactive multimedia software programs certainly exist, PowerPoint is one the most widely available and used programs today. When effectively planned and used, PowerPoint can enhance instruction. PowerPoint offers effective ways to enhance instruction when used and designed appropriately. PowerPoint can be an effective tool to present material in the classroom and encourage student learning. PowerPoint can be used to project visuals that would otherwise be difficult to bring to class. This session was about providing effective instructional material to the students with the help of text, Graphics and Animation. The presenter discussed and demonstrated various tips and techniques to improve the impact of the presentations on the students.Judicious use of animation can support teaching goals and further engage

students in classroom presentations.

Session - II	**Topic: Blended Learning, Flipped Classroom and Virtual Laboratory** With the significant shift to online learning,learning terminologies and strategies have also changed a lot. Understanding these terminologies is necessary to find the best model for classroom communication. Blended learning models use a cohesive, integrated combination of face-to-face instruction at a brick-and-mortar location and online instruction.The online portion may include live webcasting, recorded videos, and other forms of technology that complement and enrich the in-person instruction, rather than replace or repeat it. The flipped classroom in blended learning has changed the way of delivering a lecture. It has made teaching more interactive and has increased interaction between the students and Teacher. In this technique students get time to go through content even before they attend classroom lectures, it helps them work toward content mastery. Virtual labs are interactive, digital simulations of activities to learn/explain certain concepts that improves the content delivery of all types of experiments and is helpful for students understanding and applying the concepts in a better way.
Session - III	**Topic:Practice Session for Content Development using AR Tools** This session provided hands-on experience on using Blippar tools. A practice task was given during this session. The attendees completed the practice question with the help of instruction provided by the speaker during the session. The session ended with an idea of Blippar tool application in teaching and learning.

Day 3   **Date: 13-03-2024**

Session - I	**Topic: Effective Teaching Learning Using Video Conferencing Tools** Effective teaching and learning via video conferencing tools revolutionizes education, especially in the face of challenges like the COVID-19 pandemic. These platforms, including Zoom and Google Meet, facilitate interactive sessions with features like screen sharing and breakout rooms. Multimedia integration enhances content delivery, while personalized feedback addresses individual student needs. Flexible scheduling ensures accessibility, and collaborative projects foster teamwork skills. Ongoing professional development supports educators in utilizing these tools adeptly. Despite challenges like digital equity concerns, leveraging video conferencing tools enables educators to create dynamic, inclusive learning environments transcending physical boundaries, preparing students for success in the digital era.
Session - II	**Topic: Video Editing using Open Source Software** Video editing using open-source software offers a budget-friendly and flexible solution for content creators. Users can trim, splice, and enhance footage, apply effects, and adjust audio levels with intuitive interfaces. These tools support various video formats

and resolutions, catering to diverse project needs. With active developer communities and extensive online documentation, users receive ongoing support and updates. While some advanced features may be limited compared to commercial software, open-source video editing empowers creators with accessible, collaborative, and capable tools for producing professional-grade content.

Session - III **Topic:Practice Session for Designing Effective Presentation**
This session provided hands-on experience for Designing Effective Presentation. A practice task was given during this session. The attendees completed the practice question with the help of instruction provided by the speaker during the session.

Day 4   **Date: 14-03-2024**

Session - I **Topic: Cloud Based Learning Management System for Teaching and Learning**
Cloud-based Learning Management Systems (LMS) have revolutionized teaching and learning by providing accessible, collaborative, and versatile platforms for educators and students alike. These systems, such as Moodle, Canvas, and Google Classroom, enable seamless delivery of educational content, assessment, and communication regardless of physical location. With cloud-based LMS, educators can create and share interactive multimedia content, assignments, and quizzes, fostering engaging and personalized learning experiences. Students benefit from 24/7 access to course materials, facilitating self-paced learning and collaboration with peers. Additionally, cloud-based LMS streamline administrative tasks, such as grading and attendance tracking, freeing up educators' time for more meaningful interactions with students. Furthermore, these systems offer scalability and flexibility to accommodate diverse educational settings, from K-12 schools to higher education institutions and corporate training programs. By leveraging cloud-based LMS, educators can enhance accessibility, efficiency, and effectiveness in teaching and learning, preparing students for success in the digital age.

Session - II **Topic: Online Evaluation Tools in Academia**
Online evaluation tools have become indispensable in academia, offering efficient and flexible assessment methods for educators and students. These tools encompass a range of platforms such as Google Forms, Quizizz, and Kahoot, providing diverse options for creating quizzes, exams, surveys, and assignments. Educators can design customizable assessments tailored to course objectives, incorporating various question types, multimedia elements, and automated grading features. Moreover, online evaluation tools facilitate remote assessment, enabling students to complete assignments and exams from any location with internet access. Real-time feedback mechanisms empower

educators to monitor student progress and provide timely support and intervention when needed. Additionally, these tools enhance data analytics capabilities, allowing educators to gain insights into student performance and identify areas for instructional improvement. By leveraging online evaluation tools, academia promotes accessibility, efficiency, and effectiveness in assessment practices, fostering a dynamic and inclusive learning environment conducive to student success.

Session - III	**Practice session on Video Conferencing Tools** This session provided hands-on experience on Video Conferencing Tools. A practice task was given during this session. The attendees completed the practice question with the help of instruction provided by the speaker during the session. The session ended with an idea of Blippar tool application in teaching and learning.

Day 5   **Date: 15-03-2024**

Session - I	**Topic: Use of AI Tools in Teaching and Learning** The integration of Artificial Intelligence (AI) tools in teaching and learning has revolutionized education, offering innovative solutions to enhance the learning experience for both educators and students. AI-powered platforms like ScribeSense, Duolingo, and Grammarly provide personalized learning experiences tailored to individual student needs. These tools analyze learner data to deliver adaptive content, assessments, and feedback, promoting engagement and mastery of subject matter. Furthermore, AI algorithms can identify learning patterns and preferences, allowing educators to customize instructional strategies and interventions effectively. AI chatbots and virtual assistants offer real-time support to students, addressing queries and providing guidance outside of traditional classroom hours. Moreover, AI facilitates data-driven decision-making for educational institutions, enabling predictive analytics for student outcomes and resource allocation. Despite concerns regarding data privacy and ethical considerations, the strategic implementation of AI tools in teaching and learning holds immense potential to optimize educational outcomes, foster student success, and prepare learners for the demands of the future workforce.

Session - II	**Topic: LaTeX for Professional Publications** LaTeX, a typesetting system widely used for professional publications, offers unparalleled precision and quality in document formatting. Its markup language allows users to focus on content creation while LaTeX takes care of the layout, ensuring consistency and adherence to professional standards. Particularly favored in academia, LaTeX is renowned for its ability to handle complex mathematical equations, scientific notations, and bibliographies seamlessly. Its versatility extends to various document types, including research papers, journal articles, theses, and technical reports. LaTeX templates provide a standardized format for different publication requirements, streamlining the publishing process and ensuring uniformity across multiple documents. Furthermore, LaTeX's open-source nature fosters collaboration and community-driven

development, with extensive documentation and user support available online. While mastering LaTeX may require some initial learning curve, its robust features, superior output quality, and widespread acceptance make it an indispensable tool for professionals seeking to produce polished and professional publications.

Session - III

Valediction and Course Feedback

Valedictory session was conducted to mark the end of this 5-day programme. NITTTR coordinators interacted with all the remote centers. Participants from MSIT shared their experience and feedback regarding informative sessions conducted during all the sessions. Programme ended with a vote of thanks to organisers.