



October-December 2023

TECH TERRAIN TRIBUNE

DEPARTMENT OF
INFORMATION TECHNOLOGY

E-NEWSLETTER

MADHAV INSTITUTE OF TECHNOLOGY
& SCIENCE, GWALIOR

Editorial Board

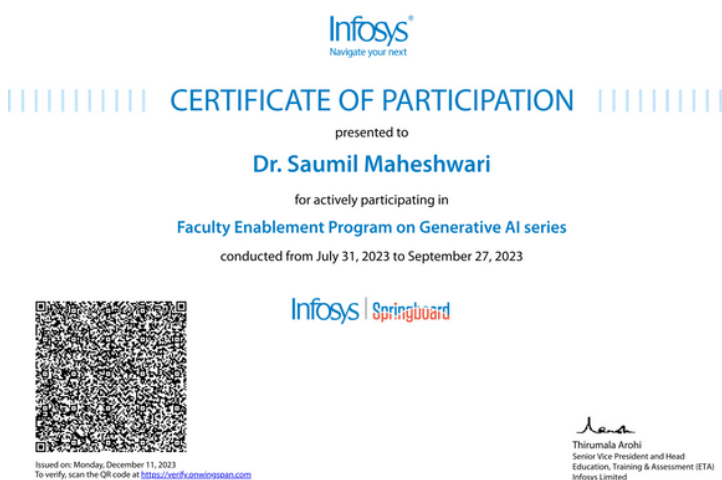
- Dr. Sanjiv Sharma,
Coordinator IT Department
- Dr. Saumil Maheshwari
- Ms. Bulbul Agrawal

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FDP/STC Attended (Outside the Institute)

- **Dr. Punit Kumar Johari** has completed the 5 days of the Faculty Development Program on “ Building Advanced Data Analytics Applications with Cloud” under the Next Gen Employability Program from 18/12/2023 to 22/12/2023.
- **Dr. Saumil Maheshwari** has successfully completed Faculty Enablement Program on “Generative AI series” conducted from 31 July 2023 to 27 September 2023 through Infosys Springboard.
- **Ms. Bulbul Agrawal** has completed MPCST funded national level workshop on “Grant Writing, IPR and Publication Strategy” organized by the School of Technology Management & Engineering, SVKM’s NMIMS, Indore from 27/11/2023 to 01/12/2023.
- **Ms. Bulbul Agrawal** has completed the 5 days of the Faculty Development Program on “ Building Advanced Data Analytics Applications with Cloud” under the Next Gen Employability Program from 18/12/2023 to 22/12/2023.



NPTEL/ATAL/COURSERA/INTERNSHALA course attended by the faculty

- **Mr. Shubham Sharma** has completed the 12 week course on “Introduction to Internet of Things” cum NPTEL-AICTE FDP programme from Jul-Oct 2023 with a consolidated score of 90 % Gold +Elite certificate
- **Ms. Bulbul Agrawal** has completed the 8-week course on "Computer Graphics" through NPTEL, offered by IIT Guwahati, and has been awarded the Elite certificate.
- **Ms. Bulbul Agrawal** has completed the 12-week course on “Software Engineering” cum NPTEL-AICTE FDP Programme, offered by IIT Kharagpur.
- **Ms. Surbhi Gupta** has completed the 12 week course on “Introduction to Internet of Things” cum NPTEL-AICTE FDP programme from Jul-Oct 2023 with a consolidated score of 84 % Elite+ Silver certificate.
- **Ms. Akanchha Tiwari** has completed the 8-week course on “Theory Of Computation” cum NPTEL-AICTE FDP Programme, offered by IIT Kanpur.
- **Ms. Akanchha Tiwari** has completed the 8-week course on “Design and Analysis of Algorithm” cum NPTEL-AICTE FDP Programme, offered by IIT kharagpur.
- **Ms. Akanchha Tiwari** has completed the 8-week course on "Big Data Computing" through NPTEL, offered by IIT Patna.



“There is nothing impossible to them who will try.”-Alexander the great

Student Club Activities organized

- Digital Learning Group has organized a one-day seminar on “ElevateEQ- Unleashing the power of Soft Skills” at the institute level on 28/11/2023.
- Digital Learning Group has organized a one-day webinar on “Unlock the Future with Industry 4.0” by speaker Mr. Ashish Namdeo, Founder of Eddytools Tech. Solutions at the institute level on 31/10/2023.
- Digital Learning Group has organized a one-day Seminar on Coding Roadmap for freshers on 04/10/2023 and provided an opportunity to complete the challenge to participate in the 21-Day Hard Coding Challenge.

Latest Technologies

Li-Fi Technology: Illuminating the Future of Wireless Communication

Description:

In the realm of cutting-edge technologies, Li-Fi (Light Fidelity) has emerged as a revolutionary approach to wireless communication. Unlike traditional Wi-Fi, which uses radio waves, Li-Fi leverages visible light to transmit data, offering unprecedented speed, security, and potential applications.

Light as a Data Carrier:

Li-Fi operates by modulating LED light sources to transmit binary code. Rapid flickering of these lights, undetectable to the human eye, allows for the transmission of data at incredibly high speeds. This technology transforms our existing lighting infrastructure into a dual-purpose system, illuminating spaces while simultaneously serving as a high-speed data transmission medium.

“The man who does not read books has no advantage over the one who cannot read them.”-Mark Twain

Enhanced Security:

Li-Fi offers enhanced security features compared to conventional Wi-Fi. Since visible light cannot penetrate walls, Li-Fi signals are confined to specific areas, reducing the risk of data interception from outside the intended space. This characteristic makes Li-Fi a promising option for environments where data security is paramount, such as in healthcare facilities or government institutions.

Applications Beyond Data Transfer:

While Li-Fi's primary application is high-speed data transfer, its versatility extends to various domains. Li-Fi can be employed in location-based services, indoor navigation, and even as a tool for creating interactive and immersive environments. In scenarios where radio frequency communication is challenging, such as underwater communication or in environments with electromagnetic interference, Li-Fi emerges as a viable alternative.

Challenges and Considerations:

Despite its promise, Li-Fi faces challenges such as limited range and the requirement for a direct line of sight between the light source and the device. Ongoing research aims to overcome these limitations, with efforts focused on developing Li-Fi transceivers that can function in broader areas and under different lighting conditions.

In conclusion, Li-Fi stands at the forefront of transformative technologies, offering a glimpse into a future where data communication is seamlessly integrated with our lighting infrastructure. As research and development in Li-Fi continue, its potential applications and impact on various industries are poised to grow, illuminating a path toward a faster, more secure, and interconnected digital future.

"We should not give up and we should not allow the problem to defeat us."- Dr. A.P.J. Abdul Kalam