Report on
One day Guest lecture on
Emerging trends in LiFi technologies
6 August 2015
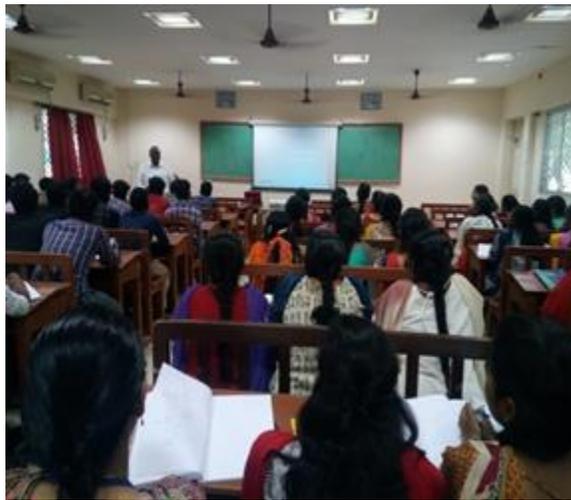
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A guest lecture on "**Emerging trends in LiFi technologies**" was by Department of Electronics and Communication Engineering for IV B.E. students. The lecture was delivered on 6th August 2015 at Seminar hall, to enhance the understanding of travelling wave, which is a part of the subject "Communication Engineering" from JNTU syllabus. The lecture delivered was highly appreciated both by students and faculty. The contents included the nature of travelling wave, mathematical equation, concept of incident and reflected waves along with coefficients and Bewley lattice diagram for calculation of voltage at nodes at various time instants.

The outcome of the program is to make an awareness on communication medium. The lecture cleanly deals with the ides on the system. LiFi is a wireless optical networking technology that uses light-emitting diodes (LEDs) for data transmission. LiFi is designed to use LED light bulbs similar to those currently in use in many energy-conscious homes and offices. However, LiFi bulbs are outfitted with a chip that modulates the light imperceptibly for optical data transmission. LiFi data is transmitted by the

LED bulbs and received by photoreceptors. LiFi's early developmental models were capable of 150 megabits-per-second (Mbps). Some commercial kits enabling that speed have been released. In the lab, with stronger LEDs and different technology, researchers have enabled 10 gigabits-per-second (Gbps), which is faster than 802.11ad.

Benefits of LiFi:

Higher speeds than Wi-Fi.

10000 times the frequency spectrum of radio.

More secure because data cannot be intercepted without a clear line of sight.

Prevents piggybacking.

Eliminates neighboring network interference.

Unimpeded by radio interference.

Does not create interference in sensitive electronics, making it better for use in environments like hospitals and aircraft.

By using LiFi in all the lights in and around a building, the technology could enable greater area of coverage than a single WiFi router. Drawbacks to the technology include the need for a clear line of sight, difficulties with mobility and the requirement that lights stay on for operation.

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