The Self Financing Short Term Training Program on "Optical Communication and Technologies" had been successfully organized by Electronics and Communication Engineering Department of Maulana Azad National Institute of Technology from 16th - 18th March 2016. The course had been organized by three faculties of ECE department: Dr Aditya Goel (Chief Coordinator), Dr. Laxmi Kumre (Coordinator) and Dr. Vijayshri Chaurasia (Coordinator).

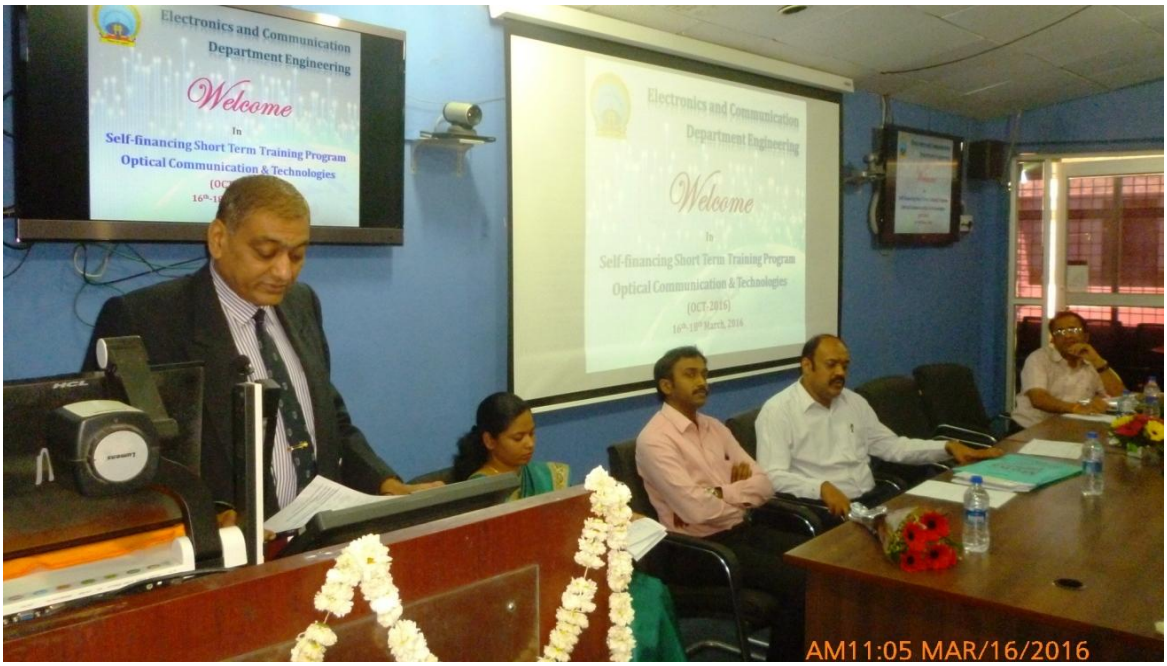
The content course has been designed to attract the attention of young researchers, academicians and industry people towards the challenges in the field of Optical Communication. Optical Communication Technologies is rapidly emerging as an attractive platform for realizing next generation high speed optical network. The 3-days long program has been meticulously planned to provide a balanced coverage of all the major aspects of Fiber optics through a series of theory classes interleaved with hands on practice on advanced simulation tools together with laboratory equipments.

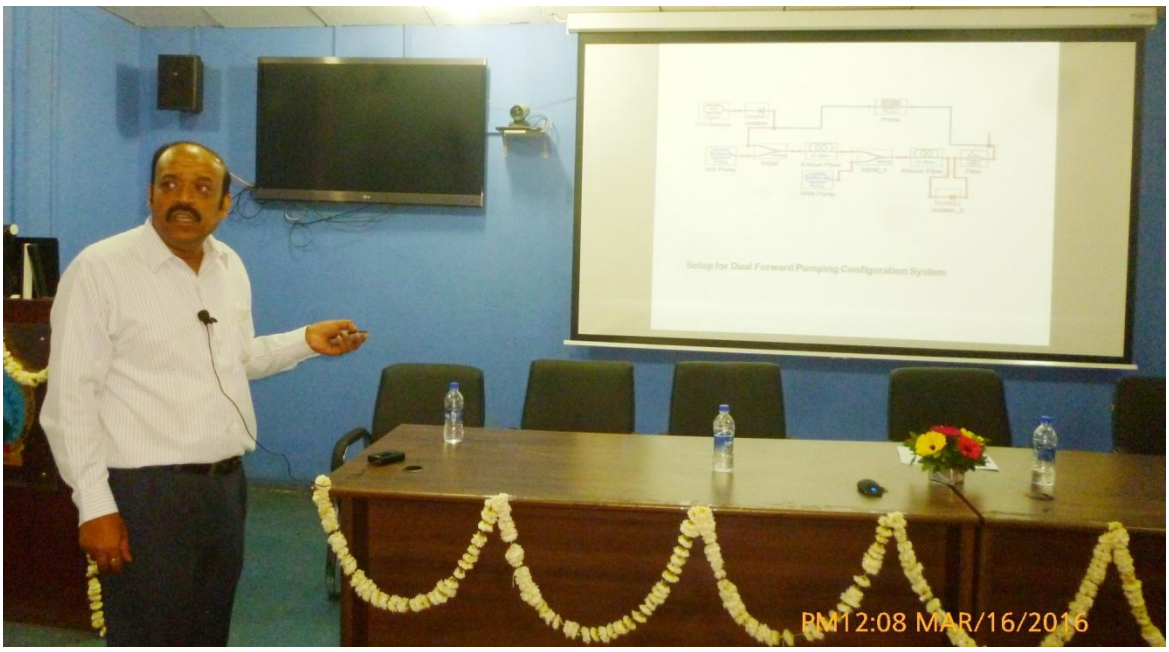
The course enlightened the Fundamentals of Optical Communication along with its features. It had explained the Optoelectronics devices, Optical fiber design and Optical fiber link design. Hands on Practical Experience had also been provided to the participants through Digital and Analog Optical Link, WDM Optical Link, EDFA, Video Link through Optical Communication. The resource people of the course were from industry and academia both. Technical experts from two renowned companies of optical fiber communication had enriched the knowledge of participants Mr. M. Sivakumar from *Benchmark Electronic System,* Chennai and Mr. Shangharsh Chauhan from *Fiber Fox,* Delhi. The resource people from academia were Dr. Aditya Goel, Professor ECE Department, MANIT, Dr. Vijayshri Chaurasia, Assistant Professor, ECE Department of MANIT and Mr. Gaurav Pandey, Research Scholar of ECE Department of MANIT. Participants in the course were faculties, research scholars and students from various engineering institutes. Total 58 participants had registered and attended the course. The course registration fee for faculties and research scholars was Rs. One thousand per participant. The registration fee collected from students was Rs. Five hundred per participant. All the expenditure for conducting the course was met from the collected registration fee. There was no financial responsibility on part of the Institute for conduction of program.

The course commenced with Participant's Registration and Inaugural Function. The chief guest of the function was the Honorable Director of MANIT, Dr. Narendra S. Chaudhari. Technical experts from Benchmark Electronic Systems (P) Ltd., along with faculties of various departments of MANIT were present as guests in the ceremony.



The ceremony started with a welcome address of Chief coordinator of the course Dr. Aditya Goel followed by speech of Mr. M. Sivakumar and concluded with the speech of Honorable chief guest.





In first session of the course, a key note Expert Lecture entitled 'Optical Communication and WDM technologies' was delivered by Dr. Aditya Goel. The lecture has covered the overview of all the aspects related to the Optical fiber communication with due emphasis to Optical Networks, WDM Optical Communication technologies, SONET etc., along with exposing the participants towards latest research potentials in the area of optical Communication. The afternoon session was started with an Expert Lecture on 'Optical Devices' by Dr. Vijayshri Chaurasia.



The lecture has acquainted the attendees with the fundamentals to present state-of-art technologies related to the optical source and detectors. The concluding session of the day One entitled 'Optical Link Design' was also presented by Dr. Vijayshri Chaurasia. This session had covered the design aspects of optical link with due emphasis on selection criteria of components and loss analysis.

The entire day two of the course was delivered and demonstrated by the technical experts from *Benchmark Electronic System.* The Resource person Mr. M. Shivakumar along with two facilitators Mr. Manoji and Mr. Anupam Karmarkar have imparted the knowledge of signal degradation, optical signal amplification and multiplexing through lectures and lab sessions.



In the first session of day two, Mr. Shivakumar has delivered a lecture on Signal Propagation in Optical Fiber, with detailed focus on signal degradation mechanisms; attenuation and dispersion. This session was followed by a lab session to give hands-on training to the participants about practical aspects of optical fiber communication. In this session a complete source to destination communication of voice signal was demonstrated. The voice signal from source was first converted to electrical signal followed by electrical-to-optical conversion through LED as well as LASER Diode. Further the communication of optical signal was furnished through fiber and finally retrieved in the form of voice at receiving end. In this communication link; attenuation, dispersion, bending and alignment losses are analyzed and measured.

The second half of the day has been started with a lecture on Optical fiber components with detailing of WDM, optical amplifiers and optical couplers. In the second lab

session of day two, hands-on training of multiplexing in optical link along with due emphasis on coupling and splitting of light was delivered.



The last day was begin with an informatory session of Mr. Sangharsh Chauhan of Fiber Fox, on 'Fiber Splicing' with demonstration of current state-of-art splicer. In the session the fiber splicing has been explained with hands-on of splicing of circular as well as ribbon fiber.



In the second session of the day, Hands-on training of Simulation Software – OPTIWAVE was presented by Mr. Gaurav Pandey to educate the participants for simulation of Optical fiber communication system and its components.



In the last session of the course different phenomenon of Optical Communication were explained through demonstration of in house 'Instructional Software' (developed by Dr. Aditya Goel).



Finally the course was formally wrapped up with Valedictory ceremony, in the presences of distinguished faculty members of ECE department. The chief guest of the function was the Respected Head of ECE department, MANIT, Dr. R.K. Baghel.



Valedictory ceremony started with the address of Dr. Aditya Goel followed by speech of chief guest. Further, participants have shared their experiences and views about the course.



The certificates of participation were distributed to the participants by the chief guest, Dr. R.K. Baghel. In concluding part of the ceremony, vote-of-thanks was given by Dr. Laxmi Kumre and the entire course ended in the exquisite evening of 18th March 2017, with Hi-Tea.



The anchoring was done by Dr Laxmi Kumre for the Three day long training session. The Short Term Training Program on 'Optical Communication and Technologies' was conducted successfully with abundant knowledge transfer and ample facilities. The course content, its delivery and other facilities were rated adequate through verbal as well as written feedback of participants.

Dr. Vijayshri Chaurasia Coordinator	Dr. Laxmi Kumre Coordinator	Dr. Aditya Goel Chief Coordinator