Report on OptSIM and ModeSYS Training Program

The Department of ECE has procured **OPTSIM and MODESYS** (Optical Simulation Software) under TEQIP- II. In this regard a training program is arranged during 14-15 February, 2014.

Venue : ECAD Lab (202B)

Time : 9:30AM to 1:00 PM & 2:30PM to 5:00PM on both days

Resource Person : Mr. Sujal Shah, Manager/Technical Sales,

M/s Fiber Optic Services, Mumbai.

Introduction:

OptSIM and *ModeSYS* are simulation tools for optical communication systems supplied by *RSoft* which is a source for photonic and network design software offers a full spectrum of photonics and network design automation solutions, which can be used by Faculty, researchers and students.

The features of OPTSIM and MODESYS software are:

- Virtual laboratory with over 600 available components and fibers.
- Twin simulator engines: Block mode and sample mode.
- User-friendly MATLAB interface with full co-simulation.
- Multimode fiber simulation is possible using *ModeSYS*.

Day1

Software was installed with the supplied CD in one System and Training License in 5 systems. Training was given on sampled mode and block mode analysis which were two different modes of simulations available with this software. In each mode the electrical and optical outputs are analyzed on electrical scope and optical scope respectively.

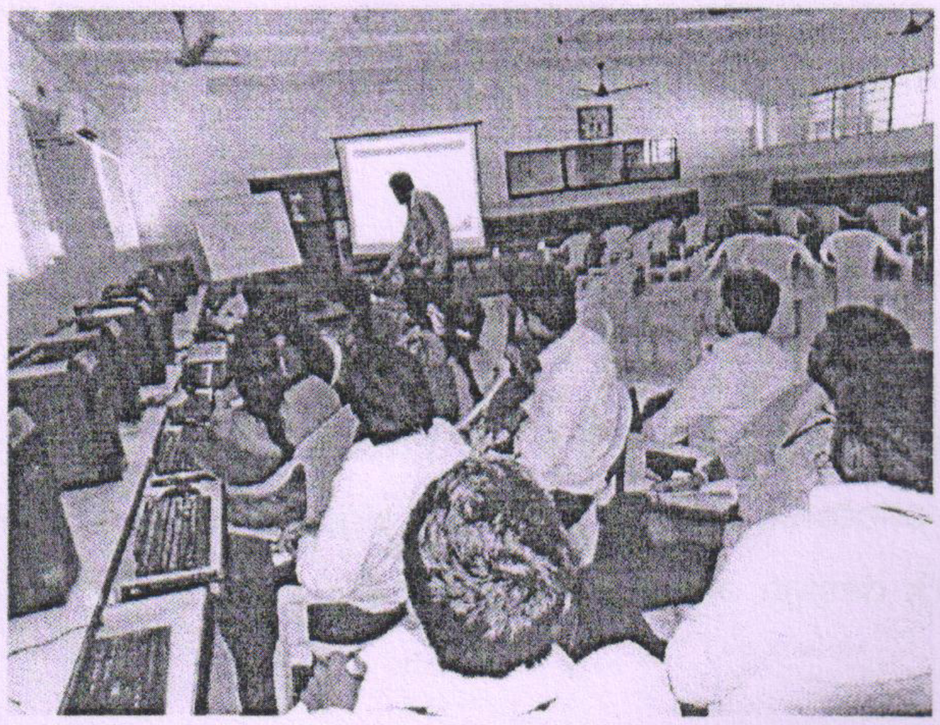
Electrical scope includes

- Eye diagram
- Electrical spectrum analyser
- Histogram on eye diagram, etc

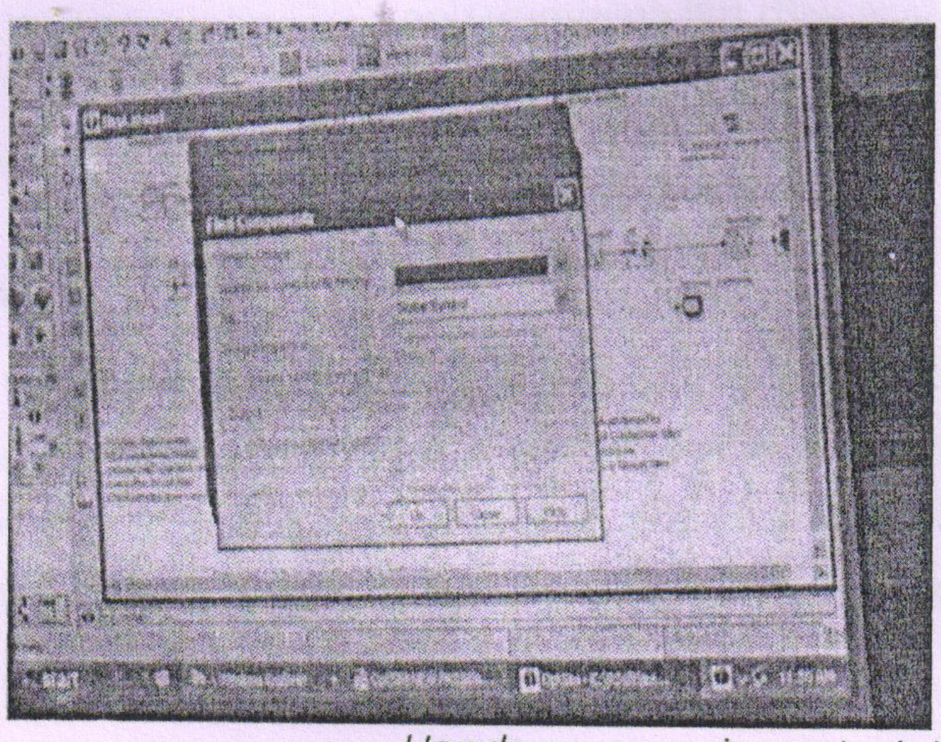
Optical scope includes

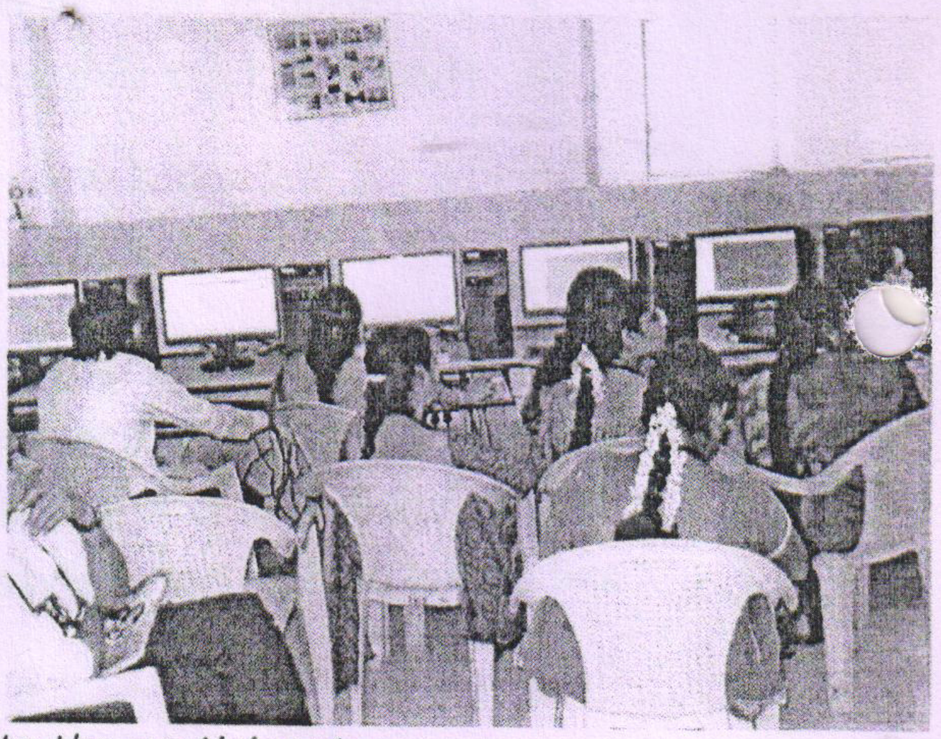
- Optical spectrum analyser
- OSNR measurements and diagrams, etc.

In each mode, Bit Error Rate (**BER**), Quality factor (**Q**) was estimated.



Mr. Sujal Shah, Trainer from M/s Fiber Optic Services *presenting "Sampled and Block mode analysis of OptSIM software"*





Hands on experience training to the participants

Day2

Selected inbuilt examples with different fiber lengths were analysed with different parameters by varying parametric runs. This is a classic feature available for optimizing the system performance.

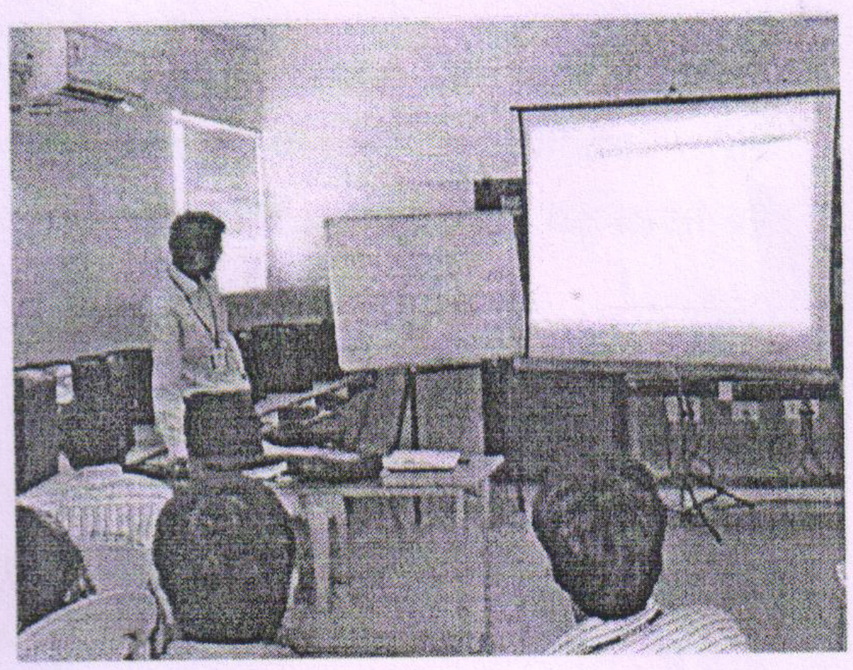
Around 200 inbuilt examples are available in this software. Few inbuilt examples and case studies were discussed and analyzed.

Building of examples using compound component tool to minimise complex networks is analysed.

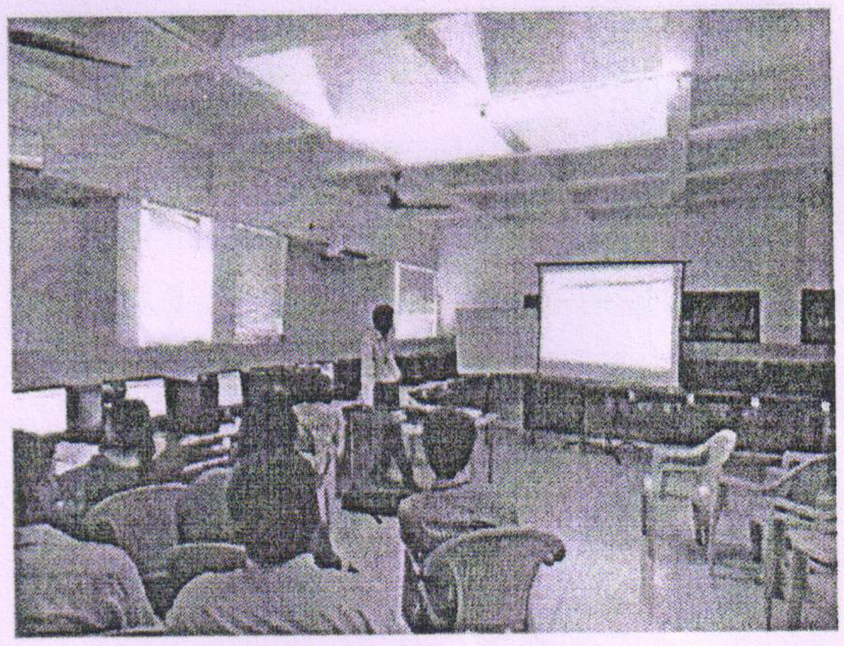
600 Optical components are available as standard IP in the software. To create additional fiber optic component of user requirement is done in MATLAB and interfaced with *OptSim* for simulation

Multimode fiber simulation is done with *ModeSYS* for different fiber modes.

In the final session participants practised various cases. Finally the soft copy of installation procedure, license key usage, manuals, videos, etc., was collected from the resource person in original. Also duplicates were made and kept in the Department.



Presentation on various inbuilt examples with case studies



Discussion on MATLAB interfacing with OptSim