



SRI KRISHNA COLLEGE OF TECHNOLOGY
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KOVAIPUDUR, COIMBATORE - 641042.



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
[Accredited by NBA upto 2020-2021]

WEBINAR REPORT

Topic: Optical transduction

Date: 23.4.2020

Organized by: M.Jaishree/ Dr Senoj Joseph

Speaker: Mr.Sai saravanan/ Associate , Product test Automation, CTS, Coimbatore

Number of participants: 30 (including faculty and students)

Webinar on Optical transduction was organized jointly by the ECE alumni cell and myself on 23.4.2020. The speaker was an alumnus of the institution Mr.Sai saravanan. K who completed his UG degree from ECE department in the year 2015. Currently he is Associate , Product test Automation, CTS, Coimbatore. The session was done using Webex meeting. The topic was a about Fiber Optic Communication in CATV. He started with the introduction on Fiber optic cable followed by its transmission and reception, conversion about optical signal to RF signal, amplifier used Power Pass Network (Signal Modulated with Power), AC Splitter and Signal Splitter, QAM Modulation and Bandwidth. It was an knowledge oriented session handled by Mr.Sai Saravanan. Overall the session was very much appreciated by the faculty and students.

Photo:

OPTICAL TRANSDUCTION



Optical Fiber Communication in CATV



CONTENTS

- ✓ Fiber Optic Communication in CATV
- ✓ Fiber Optic Cable
- ✓ Optical Signal Transmitter
- ✓ Optical Transducer or Receiver
- ✓ Optical signal to RF signal conversion
- ✓ RF Signal and RF Amplifier
- ✓ Power Pass Network (Signal Modulated with Power)
- ✓ AC Splitter and Signal Splitters
- ✓ QAM Modulation and Bandwidth



Fiber Optic Cable

- ✓ Core and Cladding
- ✓ Total Internal Reflection
- ✓ Core Material
- ✓ Loss in Fiber Optic Cable
- ✓ Optical Patch Cord



Optical Signal Transmitter

- ✓Electrons to Photons
- ✓Electrical Input Interface
- ✓Data Modulator/Encoder
- ✓LASER
- ✓Optical Output Interface
- ✓WDM Multiplexer



RF Signal and RF Amplifier

- ✓Radio Frequency Signal
- ✓Coaxial Cable (Copper, Steel and Alloy)
- ✓Signal Loss/Attenuation
- ✓Single I/F Multiple O/F
- ✓Gain and Slope Adjustment
- ✓PowerPass and AC Supply



Optical Transducer or Receiver

- ✓Optical Input
- ✓Photo Detector (PIN Diode)
- ✓Node IC
- ✓RF signal Output
- ✓Power Pass, SMPS and DC Node



Power Pass Network

- ✓Power Feed Over Co-Ax
- ✓Power Injector
- ✓Power Pass in Amplifier
- ✓30 - 60V Range
- ✓Power Loss
- ✓Power - Signal Interference





A screenshot of a Zoom meeting grid. The grid consists of 12 tiles. The top row has four tiles: a video tile for Sai Saravanan Kandakumar (Host), a video tile for Dr.Senoj Joseph, a shared content view for Priya Ramanathan showing the word "PP", and a video tile for hp. The second row has four tiles: a video tile for G.Anitha, a tile with the number "1", a tile with the letter "B", and a tile with the letter "G". The third row has four tiles: a video tile for Malathy Subramenium, a tile with the letters "SA", a tile with the letters "SA", and a tile with the letters "TR". The bottom row has four tiles: a tile with the letter "V", a tile with the letter "V", a tile with the letters "YS", and a video tile for Yuvaraj. At the bottom of the grid, there is a toolbar with icons for mute, video, chat, and other functions. A "Show shared content view" tooltip is visible over the Priya Ramanathan tile.

Cisco Webex Meetings

File Edit Share View Audio Participant Meeting Help


Participants (27)

Viewing Sai Saravanan Kan...

Read Only - You can't save changes to this file.

RF Signal and RF Amplifier

- ✓ Radio Frequency Signal
- ✓ Coaxial Cable (Copper, Steel and Alloy)
- ✓ Signal Loss/Attenuation
- ✓ Single I/P Multiple O/P
- ✓ Gain and Slope Adjustment
- ✓ PowerPass and AC Supply



12:02 PM
4/23/2020

The image shows a Cisco Webex meeting interface. At the top, there's a menu bar with 'File', 'Edit', 'Share', 'View', 'Audio', 'Participant', 'Meeting', and 'Help'. Below this is a toolbar with icons for mute, video, chat, and other functions. The main content area displays a presentation slide titled 'RF Signal and RF Amplifier'. The slide lists several features: Radio Frequency Signal, Coaxial Cable (Copper, Steel and Alloy), Signal Loss/Attenuation, Single I/P Multiple O/P, Gain and Slope Adjustment, and PowerPass and AC Supply. An image of an RF amplifier device is shown on the right side of the slide. The bottom of the screen shows a Windows taskbar with various application icons and the system clock indicating 12:02 PM on 4/23/2020.

Invitation:



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(Ministry of HRD Initiative)

**SRI KRISHNA
COLLEGE OF TECHNOLOGY**

**DEPARTMENT OF ELECTRONICS AND
COMMUNICATION ENGINEERING**

Organizing a Webinar on
Optical transduction

Guest Speaker
Mr. Sai Saravanan
Associate - Product Test Automation
Cognizant, Coimbatore
[alumnus of ECE,SKCT]

On 23rd April 2020
@ 11 am
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