



**NEW HORIZON
COLLEGE OF ENGINEERING**

Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC
Accredited by NAAC with 'A' Grade, Accredited by NBA

Department of Electronics and Communication Engineering

Academic Year 2021-2022

TWO DAYS INDUSTRIAL TRAINING PROGRAM FOR FACULTY

On

ASIC ANALOG AND DIGITAL DESIGN USING MENTOR GRAPHICS

DATE : 23.11.2021 & 24.11.2021



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D) INVITATION/POSTER OF THE EVENT

NEW HORIZON COLLEGE OF ENGINEERING

Department of Electronics and Communications Engineering

Two Days Industrial Training Program for Faculty on ASIC Analog and Digital Design Using Mentor Graphics In association with



Day 1 - Session 1: Introduction to ASIC Analog flow

Day 1 - Session 2: Layout circuit design, Physical verification & Post layout verification

Day 2 - Session 1: Introduction to ASIC Digital flow

Day 2 - Session 2: Synthesis, Placement and routing

Date:
23rd & 24th NOV, 2021

Coordinators:
Dr. Piruthiviraj P
Associate Professor

Mr. Richard Lincoln Paulraj
Senior Assistant Professor

Convener :
Dr. Sanjeev Sharma
HOD-ECE



TRAINER
Mr. Vinnalan K A
Application Engineer

II)



**NEW HORIZON
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Technical Training on ASIC Analog and Digital design Using Mentor Graphics

AGENDA

Day 1 - Session 1: 10.00 am - 1.00 pm

- Introduction to ASIC Analog flow
- Implement Schematic circuit design & Transistor Width variation

Day 1 - Session 2: 2.00 pm - 4.30 pm

- Implement layout circuit design
- Physical verification & Post layout verification
-
- **Tools:** Tanner, calibre
- **Example:** Inverter
- **Date:** 23/11/2021
-

Day 2 - Session 1: 10.00 am - 1.00 pm

- Introduction to ASIC Digital flow
- Digital design using Verilog

Day 2 - Session 2: 2.00 pm - 4.30 pm

- Synthesis
- Placement and routing
-
- **Tools:** QuestaSim, Oasys, Nitro
- **Example:** counter
- **Date:** 24/11/2021



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Department of Electronics and Communication Engineering

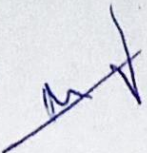
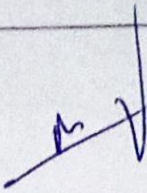
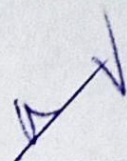
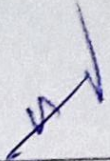




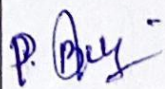
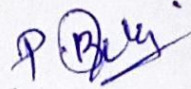
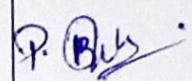

- List of Participants

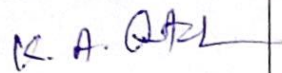
Participants	Designation
Dr Sanjeev Sharma	HOD, Department of ECE,NHCE,Bengaluru
Dr Aravinda K	Associate Professor,Department of ECE, NHCE,Bengaluru
Dr Gurulakshmi A B	Associate Professor,Department of ECE, NHCE,Bengaluru
Richard Lincoln Paulraj	Senior Assistant Professor,Department of ECE, NHCE,Bengaluru
Monika Gupta	Senior Assistant Professor,Department of ECE, NHCE,Bengaluru
Swati Nigam	Assistant Professor,Department of ECE, NHCE,Bengaluru
P. Ramanamma	Senior Assistant Professor,Department of ECE, NHCE,Bengaluru
Nayana G H	Senior Assistant Professor,Department of ECE, NHCE,Bengaluru
Kavita	Assistant Professor,Department of ECE, NHCE,Bengaluru
Salna Joy	Assistant Professor,Department of ECE, NHCE,Bengaluru
Deepak N	Assistant Professor,Department of ECE, NHCE,Bengaluru
Baiju	Lab Instructor, Department of ECE, NHCE,Bengaluru
P Bakyalakshmi	Lab Instructor, Department of ECE, NHCE,Bengaluru

Sanju

Attendance

Participant		Day 1 Session 1	Day 1 Session 2	Day 2 Session 1	Day 2 Session 2
Dr Sanjeev Sharma	HOD, Department of ECE,NHCE,Bengaluru	<i>Sanj</i>	<i>Sanj</i>	<i>Sanj</i>	<i>Sanj</i>
Dr Aravinda K	Associate Professor,Department of ECE, NHCE,Bengaluru	<i>Ak</i>	<i>Ak</i>	<i>Ak</i>	<i>Ak</i>
Dr Gurulakshmi A B	Associate Professor,Department of ECE, NHCE,Bengaluru	<i>A.B.gurubhi</i>	<i>A.B.gurubhi</i>	<i>A.B.gurubhi</i>	<i>A.B.gurubhi</i>
Richard Lincoln Paulraj	Senior Assistant Professor,Department of ECE, NHCE,Bengaluru	<i>R/L</i>	<i>R/L</i>	<i>R/L</i>	<i>R/L</i>
Monika Gupta	Senior Assistant Professor,Department of ECE, NHCE,Bengaluru	<i>Monika</i>	<i>Monika</i>	<i>Monika</i>	<i>Monika</i>
Swati Nigam	Assistant Professor,Department of ECE, NHCE,Bengaluru	<i>Swati</i>	<i>Swati</i>	<i>Swati</i>	<i>Swati</i>
P. Ramanamma	Senior Assistant Professor,Department of ECE, NHCE,Bengaluru	<i>P.Rama</i>	<i>P.Rama</i>	<i>P.Rama</i>	<i>P.Rama</i>
Nayana G H	Senior Assistant Professor,Department of ECE, NHCE,Bengaluru	<i>Nayana GH</i>	<i>Nayana GH</i>	<i>Nayana GH</i>	<i>Nayana GH</i>
Kavitha Kavita Avinash Patil	Assistant Professor,Department of ECE, NHCE,Bengaluru	<i>Kavita</i>	<i>Kavita</i>	<i>Kavita</i>	<i>Kavita</i>
Salna Joy	Assistant Professor,Department	<i>Salna</i>	<i>Salna</i>	<i>Salna</i>	<i>Salna</i>

	of ECE, NHCE, Bengaluru				
Deepak N	Assistant Professor, Department of ECE, NHCE, Bengaluru				
Baiju	Lab Instructor, Department of ECE, NHCE, Bengaluru				
P Bakyalakshmi	Lab Instructor, Department of ECE, NHCE, Bengaluru				

Resource Person	Vinnalan K A 	Application engineer	CoreEL Technologies #21, 7th Main, 1st Block, Koramangala, Bangalore 560034
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III) REPORT

Two days Industrial training program for faculty was organized on 23rd & 24th Nov 2021. The topic was “ASIC Analog and Digital design Using Mentor Graphics”. The agenda for the training is as below:

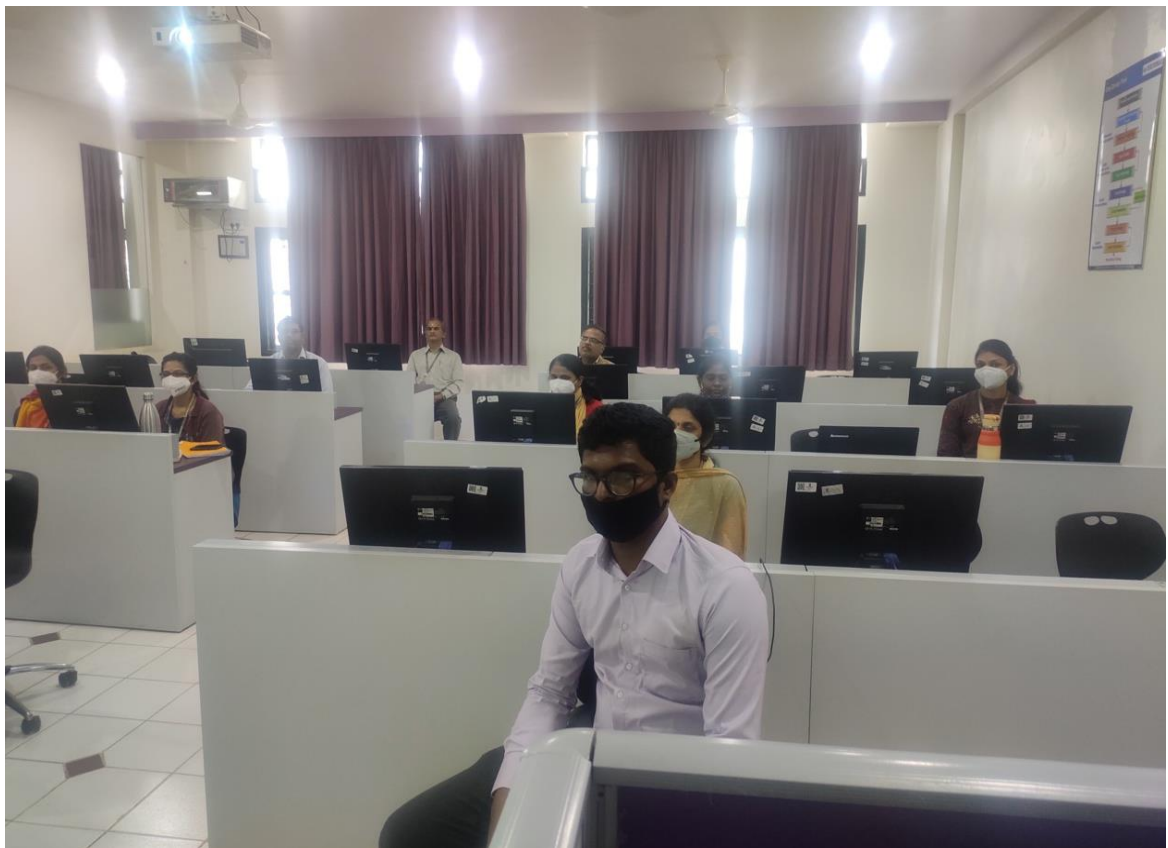
Day 1 - Session 1: 10.00 am - 1.00 pm

- Introduction to ASIC Analog flow
- Implement Schematic circuit design & Transistor Width variation

Day 1 - Session 2: 2.00 pm - 4.30 pm

- Implement layout circuit design
- Physical verification & Post layout verification

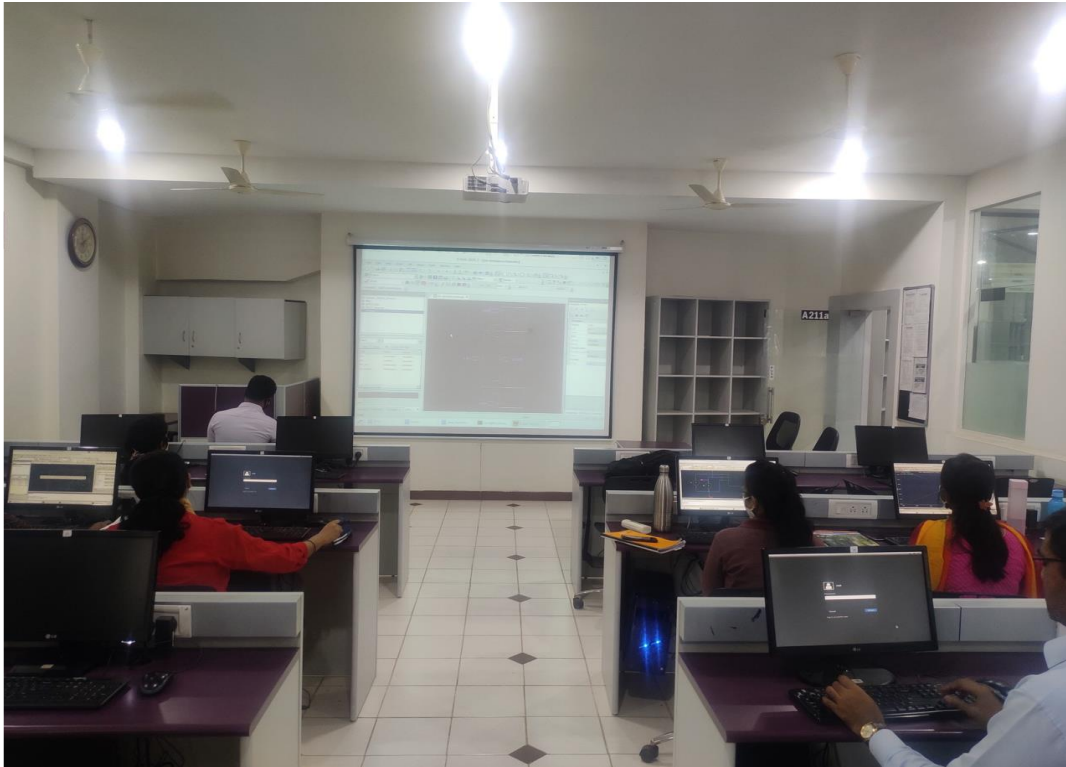
Tools : Tanner, calibre , Example : Inverter





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Day 2 - Session 1: 10.00 am - 1.00 pm

- Introduction to ASIC Digital flow
- Digital design using Verilog

Day 2 - Session 2: 2.00 pm - 4.30 pm

- Synthesis
- Placement and routing

Tools : QuestaSim, Oasys, Nitro

Example : counter



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Certificate of Participation

Richard Lincoln Paulraj

has participated in Webinar on

ASIC Analog and Digital design Using Mentor Graphics

held on 23rd November 2021 and 24th November 2021

in association with **CoreEL Technologies and Mentor**

Ms. Sadiya Arshad
Director Education and Skill Development

Outcome:

The session was helpful for all the faculties in understanding the tool & hands on experience was key for getting to know the design challenges and ways to solve them.

IV) FEEDBACK

NEW HORIZON COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

FEEDBACK FORM

NAME OF THE EVENT: Technical Training on ASIC Analog and Digital design Using Mentor Graphics

Instruction: Please put the rating in the appropriate column

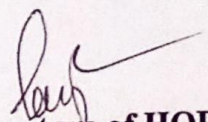
Excellent-5, Good-4, Average-3, Satisfactory-2, Poor-1

PARTICIPANTS	DESIGNATION	Instructor Knowledge on topic	Contents of the presentation	Guidance	Overall
Dr Sanjeev Sharma	HOD, Department of ECE,NHCE,Beng aluru	4	4	4	4
Dr Aravinda K	Associate Professor,Depart ment of ECE, NHCE,Bengaluru	4	5	4	4
Dr Gurulakshmi A B	Associate Professor,Depart ment of ECE, NHCE,Bengaluru	4	5	5	4
Richard Lincoln Paulraj	Senior Assistant Professor,Depart ment of ECE, NHCE,Bengaluru	4	5	5	4
Monika Gupta	Senior Assistant Professor,Depart ment of ECE, NHCE,Bengaluru	5	4	5	5
Swati Nigam	Senior Assistant Professor,Depart ment of ECE, NHCE,Bengaluru	5	5	5	5
P. Ramanamma	Senior Assistant Professor,Depart ment of ECE, NHCE,Bengaluru	4	5	5	4
Nayana G H	Senior Assistant	4	5	5	4

	Professor, Department of ECE, NHCE, Bengaluru				
Kavitha	Senior Assistant Professor, Department of ECE, NHCE, Bengaluru	5	4	4	4
Salna Joy	Assistant Professor, Department of ECE, NHCE, Bengaluru	5	4	5	4
Deepak N	Assistant Professor, Department of ECE, NHCE, Bengaluru	5	4	4	4
Baiju	Technical Assistant, Department of ECE, NHCE, Bengaluru	4	3	3	4
P Bakyalakshmi	Technical Assistant, Department of ECE, NHCE, Bengaluru	4	3	3	4

Comments/ Remarks/ Suggestions:

- 1.
- 2.
- 3.


Signature of HOD