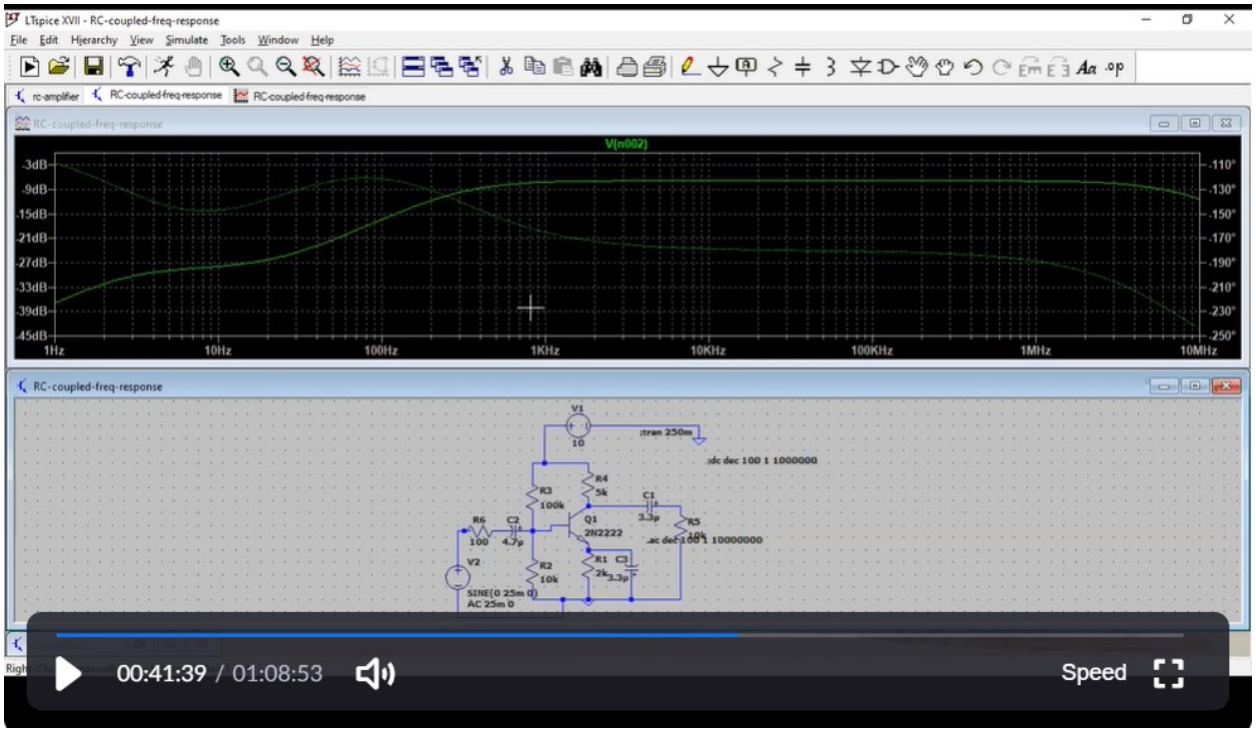
Innovative Pedagogy

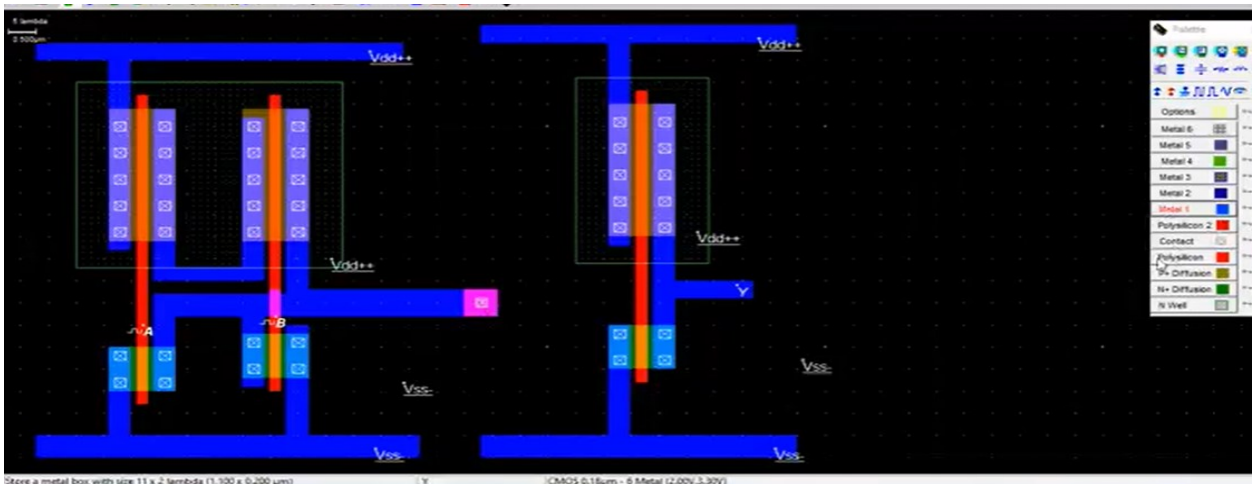
1. Tool Based learning
2. Cooperative Learning
3. Case Study
4. Think Pair Share
5. Backup Self Videos
6. Review Paper Writing
7. Report Writing
8. Case study presentation
9. Field Survey
10. Project Based Learning
11. Project Centric Learning
12. Technical Review Report

Tool Based Learning

Tool based learning is an innovative teaching method used to make the students to understand the theory concepts clearly. Tools like Cadence are used to understand VLSI concepts and LTSPICE is used to understand Electronics devices and circuits concepts. Cisco packet tracer is used to understand Computer networks concepts.



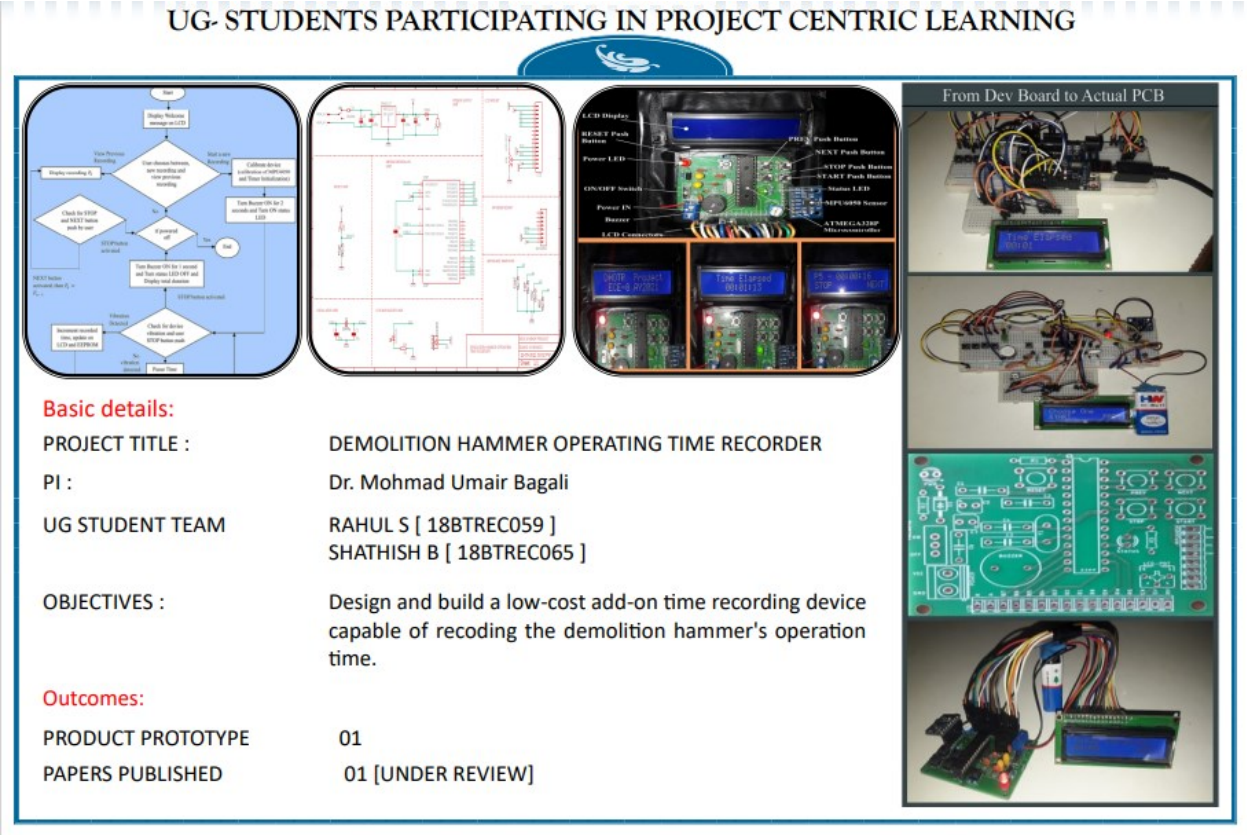
RC coupled amplifier demonstration using LTSPICE software.



Logic gates demonstration using Cadence software for VLSI design

Project Centric Learning

Project Centric Learning is a powerful tool for students to work in areas of their choice and strengths. Along with course based projects, curriculum can be enriched with semester long Engineering Design and Development course, in which students can solve socially relevant problems using various technologies from relevant disciplines. The various socially relevant domains can be like Health care, Agriculture, Defense, Education, Smart City, Smart Energy and Swaccha Bharat Abhiyan. To gain the necessary skills, to tackle such projects, students can select relevant online courses and acquire skills from numerous sources under guidance of faculty and enrich their knowledge in the project domain, thereby achieve project centric learning.



Case Study Presentation

Students are assigned with a case study in which each student is expected to make a case study video recording and also write the technical report for the given topic. The samples are as shown below:

JAIN FACULTY OF ENGINEERING AND TECHNOLOGY

Department of Electronics and Communication Engineering

Course Name: Computer Organization and Architecture **Course Code: 18CIC33**
Batch: 2020-2024 **AY: July-Dec 2021**
Faculty Name: Dr. Mohmad Umair Bagali

Student Assignment Submission Details

Sl.No.	Date and Time of submission	USN	Assignment Title	Material Link	Video Recording Link
1	11-29-2021 16:19:17	20BTRIS001	INTEL I3 PROCESSOR	https://drive.google.com/open?id=1EL8lsaVKy778a9SOdM5mndSq194iF6xp	https://share.vidyard.com/watch/FgPMMfq9aabsiWWNdax5vb?
2	11-29-2021 16:27:55	20BTRIS003	Advancement cache architecture and technology	https://drive.google.com/open?id=1iPygE56YO_k6TTV8eKcTW7kMZhPYZcz7	https://share.vidyard.com/watch/Lhjc41Zk1mvPqjKG2vSe5D
3	12-6-2021 12:48:05	20BTRIS006	"The AMD Athlon™ MP Processor "	https://drive.google.com/open?id=1MYW1IwUzXHuW21XYtZvMfQiJFAiGC7Gw	https://share.vidyard.com/watch/pPL71qHsWFchuXBdSquwzv?
4	11-28-2021 19:45:38	20BTRIS007	"Most advanced Processor$"	https://drive.google.com/open?id=1NjkB2reBm1HPi8t2ZjKsj6l3BQSiqo7_	https://share.vidyard.com/watch/7mtttc9H8aaje4R43DtZm6?
5	11-28-2021 14:15:01	20BTRIS008	An Introduction to Microprocessor Architecture using INTEL 8085 as a classic processor	https://drive.google.com/open?id=14bJYk8LNyPKCtYke7BQEIQSCtzg-plFX	https://share.vidyard.com/watch/1f2kPqBbaQXXonr1SxNyM7?
6	12-7-2021 10:57:45	20BTRIS013	ADVANCEMENTS IN PROCESSOR'S ARCHITECTURE	https://drive.google.com/open?id=1wvkAqV2BAvJMK6jmkRB-ERv4P_spyfER	https://share.vidyard.com/watch/JAhpe3SphYZZFkvh8bZeJQ?
7	11-27-2021 15:03:32	20BTRIS014	Memory Performance and Scalability of Intel and AMD's Dual-Core Processors	https://drive.google.com/open?id=1uhViDJtpylenuhr54xYa6SNxAgadnH6F8EpaILRZzrs	https://share.vidyard.com/watch/TCqCZ95TejWmJdQnUoE4rT?

Technical Report Writing

Students are assigned with a technical topic to study and conduct the same, in which each student is expected to write the technical report for the given topic. A samples report is shown below:

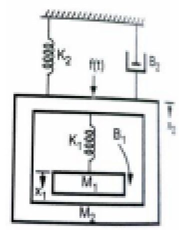
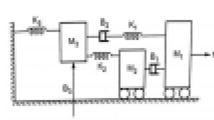
Report - Demolition Hammer Operating Time Recorder.pdf

Cooperative Learning

The students are asked to make a group of the choice chosen by faculty and are assigned with the mini projects. The group is formed by the faculty in such a way that the group consist of a bright learner, average learner and also slow learner. An assignment, which may be a tutorial sheet, program, problems, design or even mini project

Tutorial sheets

Class:5th A and B
Subject: Control systems
Subject code:18EC52
Mode of conduction: Zoom
Zoom Link: https://zoom.us/j/91955472830?pwd=MlBwdGJEQTJjU2VWTUpMRGtkYUpwZz09
Date:1/12/2020
Time:8:30am to 9:30am
Subject Handling Faculty: Prof.Ryan Dias

Sl.No	Problems	Student Name(Groups/Teams)	Remarks
1	For the system shown in Fig write its mechanical network and obtain mathematical model and electrical analogous based on torque current analogy and torque-voltage analogy.  Fig 1	SANDEEP .D GONE PAVANKUMAR EDA SAI SRI ASWANTH REDDY SHEETAL BASAVARAJ	
2	Write the differential equations of performance for the mechanical system shown and draw its F-V analogous circuit.  Fig 2	PARLA RAM CHARAN PEETHALA VENKATA SAI MANAS PENDYALA BHAVITHA PENUKONDA MOHAMMAD ATEEB PRAMODH P	
3	For the mechanical system shown in Fig 3 a) Draw the mechanical network b) Write differential equations governing its dynamic behavior c) Write the force-voltage (F-V) analogous electrical networks.  Fig 3	ADARSH MISHRA ANDANAMALA BHARATH ANDANAMALA BHARGAV AYALURI VIJAY KUMAR REDDY BANNURU HARSHINI REDDY	

A sample for Cooperative Learning

Project Based Learning

The core idea of project-based learning is that real-world problems capture students' interest and provoke serious thinking as the students acquire and apply new knowledge in a problem-solving context. The faculty plays the role of facilitator, working with students to frame worthwhile questions, structuring meaningful tasks, coaching both knowledge development and social skills, and carefully assessing what students have learned from the experience. Typical projects present a problem to solve or a phenomenon to investigate. PBL replaces other traditional models of

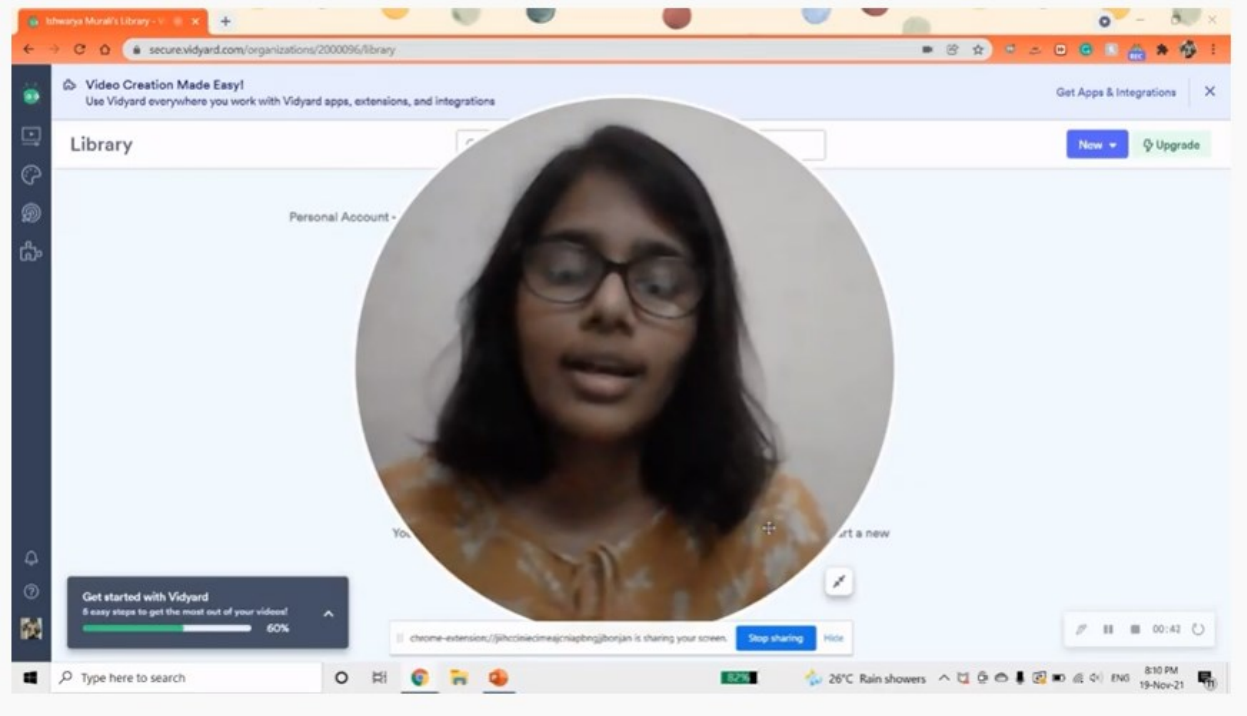
instruction such as lecture, textbook-workbook driven activities and inquiry as the preferred delivery method for key topics in the curriculum. It is an instructional framework that allows teachers to facilitate and assess deeper understanding rather than stand and deliver factual information. PBL intentionally develops students' problem solving and creative making of products to communicate deeper understanding of key concepts and mastery of essential learning skills such as critical thinking. Students become active digital researchers and assessors of their own learning when teachers guide student learning so that students learn from the project making processes. In this context, PBLs are units of self-directed learning from students' doing or making throughout the unit. PBL is not just "an activity" (project) that is stuck on the end of a lesson or unit.

Case Study Presentation

A case study is described as an intensive, systematic investigation study about a given topic to an individual student or a group of students. A specific topic is assigned to a student in which the student does a detailed study and make a presentation on the assigned topic either individually or in a group.

The link provides a sample of such case study presentation

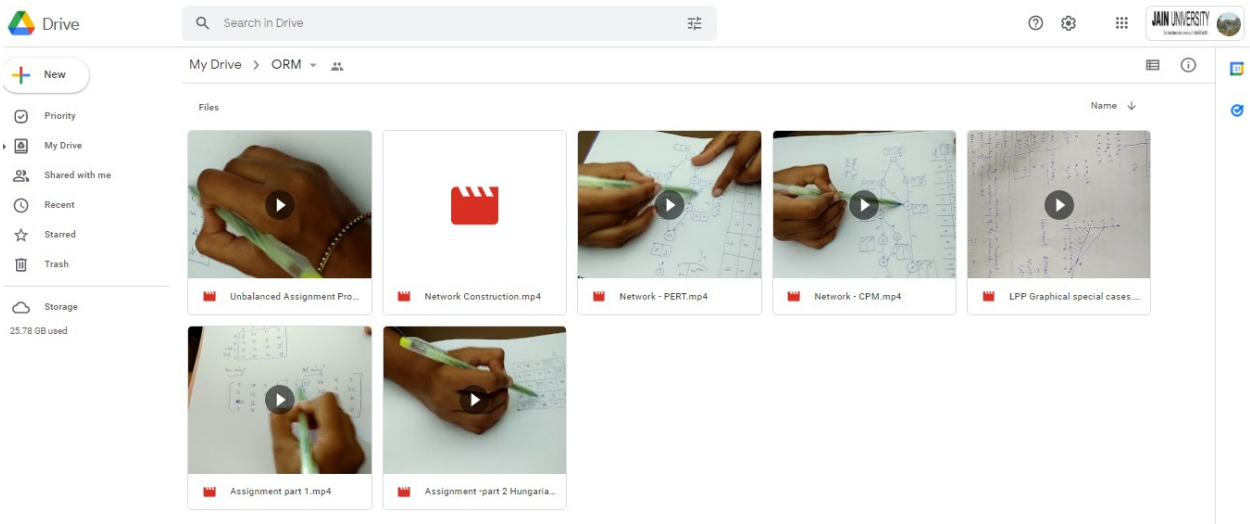
https://www.youtube.com/watch?v=L7-rLJO6Ks4

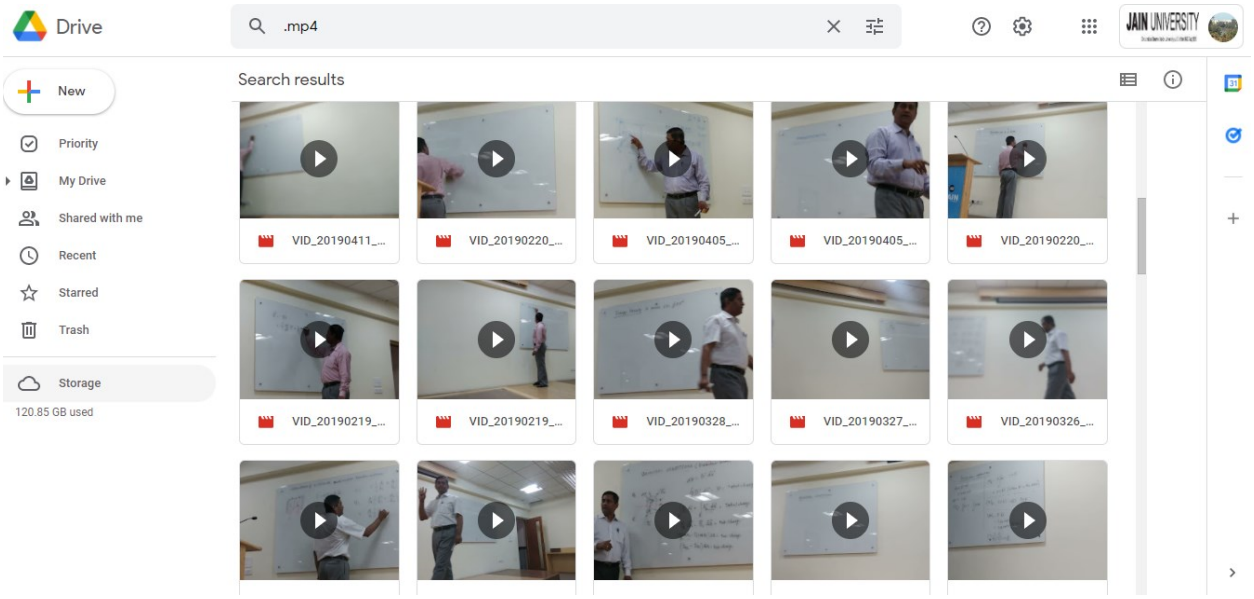


A sample Case study presentation

Backup Self Videos

The self-backup videos of the lectures are shared with students to adapt blended learning or flip class as pedagogy during the course.




Drive
.mp4
JAIN UNIVERSITY
New
Priority
My Drive
Shared with me
Recent
Starred
Trash
Storage
120.85 GB used
Search results
VID_20190411_...
VID_20190220_...
VID_20190405_...
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