

INNOVATIONS BY THE FACULTY IN TEACHING AND LEARNING

1. SRI VISHNU LMS (MOODLE)

The Sri Vishnu Learning Management System (LMS) is a versatile platform designed to support educational institutions in delivering both regular and fully online distance learning courses. It enables faculty to share course materials, including documents, PPTs, and video lectures, ensuring seamless learning for students. Additionally, the system facilitates interactive assessments such as quizzes, real-time quizzes, educational games, and assignments, enhancing engagement and knowledge retention.

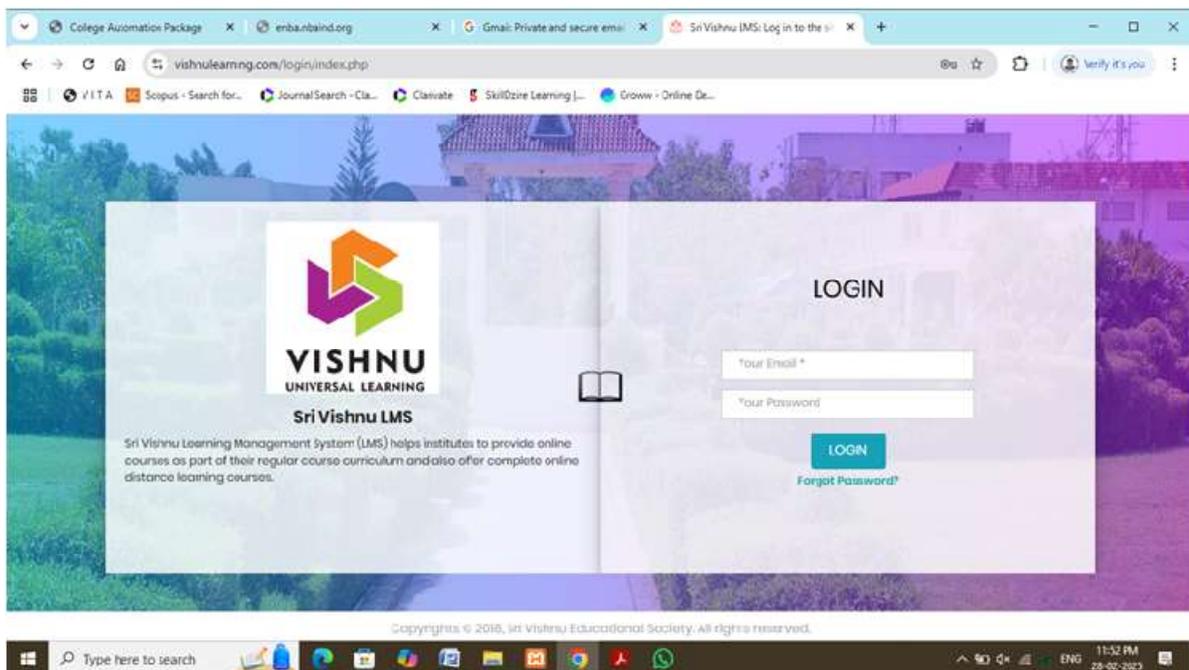


Fig 5.6.1 Login Page of Sri Vishnu LMS Portal

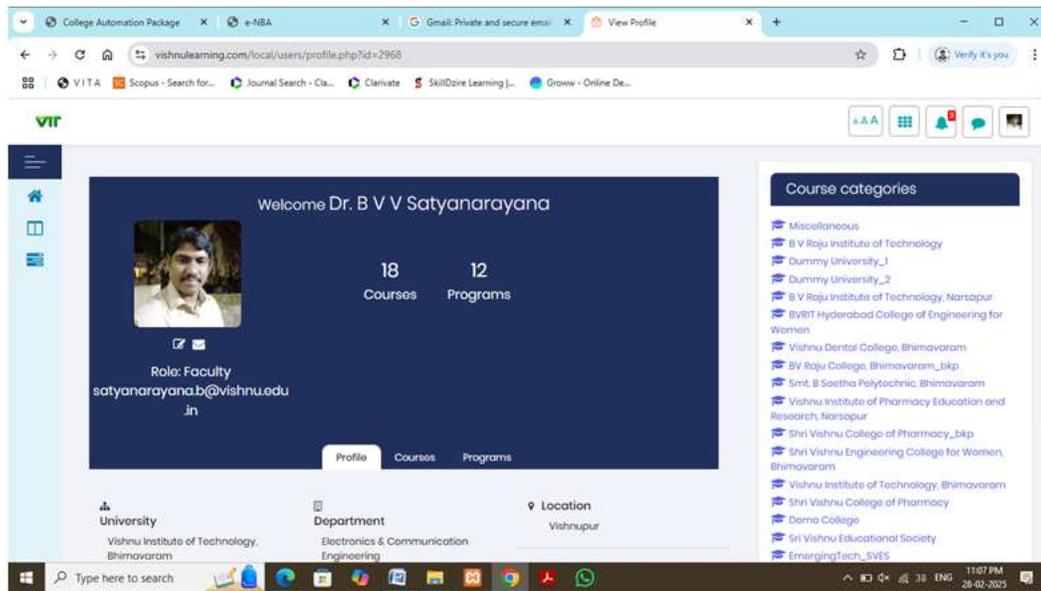


Fig 5.6.2 Dashboard of faculty login LMS Portal

2. GOOGLE CLASSROOM

Google Classroom is an application designed to enhance the learning experience which is incorporated in our teaching learning process. It helps to interact with students 24 X 7, by posting technical contents, notes, and assignments and also facilitates to conduct and evaluate online quizzes. The tools offer opportunities for collaboration in real time and the ability to work remotely. A sample of Google classroom used in the class is given the figure.

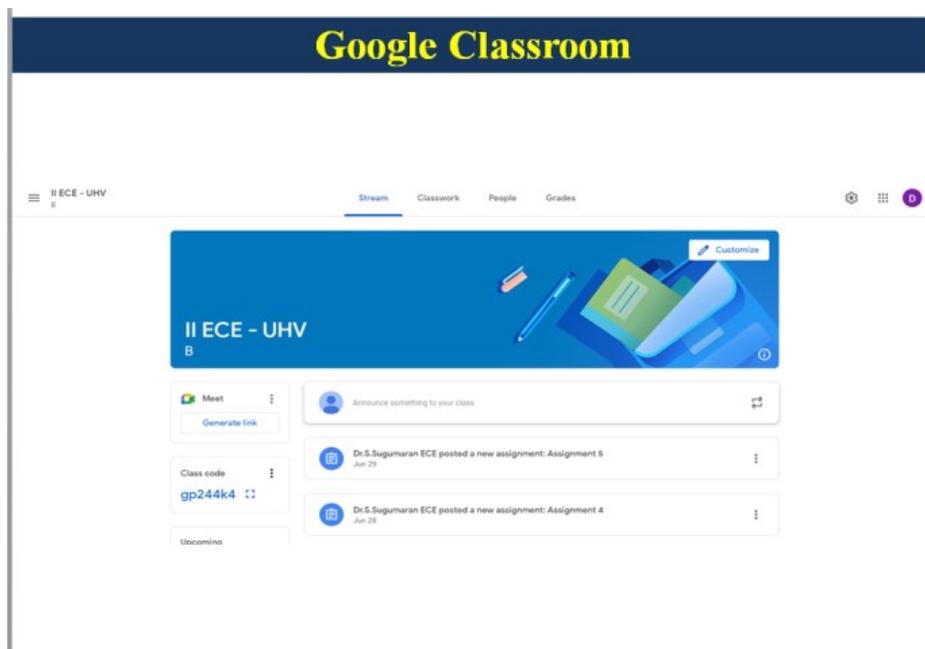


Fig 5.6.3 UHV Course Login Page in Google Classroom

3. KAHOOT

Kahoot (<https://getkahoot.com/>) is a free student-response tool for conducting quizzes, facilitating discussions, and collecting survey data. It is a game-based classroom response system played in real time. Questions are projected on a shared screen, while players answer the questions with their smart phone, tablet or computer, creating a social, fun and game-like environment. Kahoot allowed us to design multiple-choice quizzes as well as polls and surveys that our faculty could populate on-the-spot data. Some of the photographs taken during the activity are shown in figure.

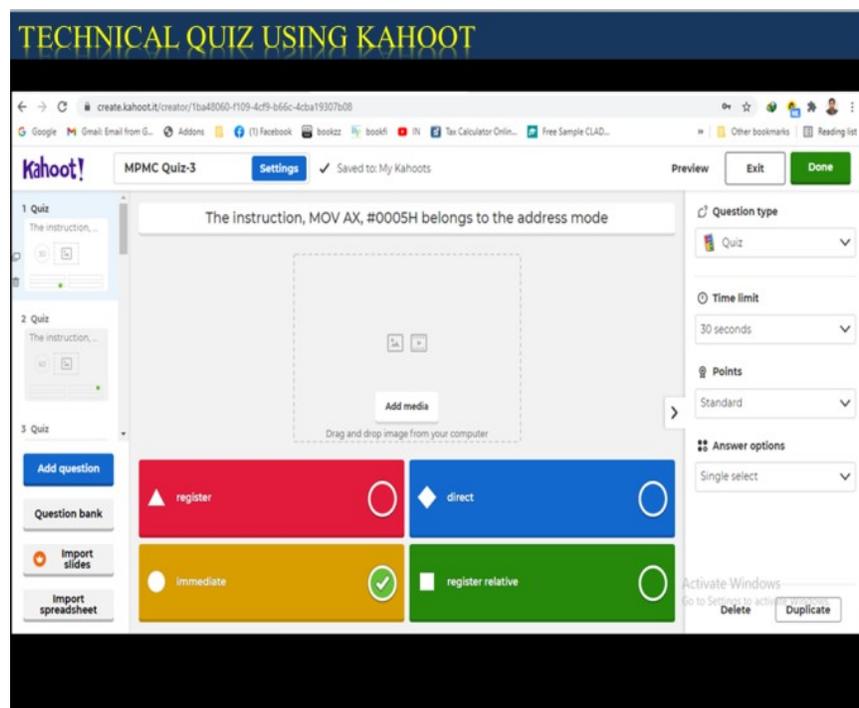


Fig 5.6.4 Technical Quiz Using Kahoot

4. GOOGLE FORMS

Google Classroom is a free web-based learning platform, where teachers can run a class online, create curriculums, and share assignments with students in a paperless way. The platform simplifies teacher student collaboration by leveraging the various G Suite services like Google Docs (<https://hiverhq.com/blog/ultimate-guide-google-docs>), Sheets (<https://hiverhq.com/blog/definitive-guide-google-sheets>), slides etc.

Teachers can create assignments using learning material like YouTube videos, Google Form surveys or PDFs from the drive. The screen shots of usage of Google forms in the class are shown in figure.

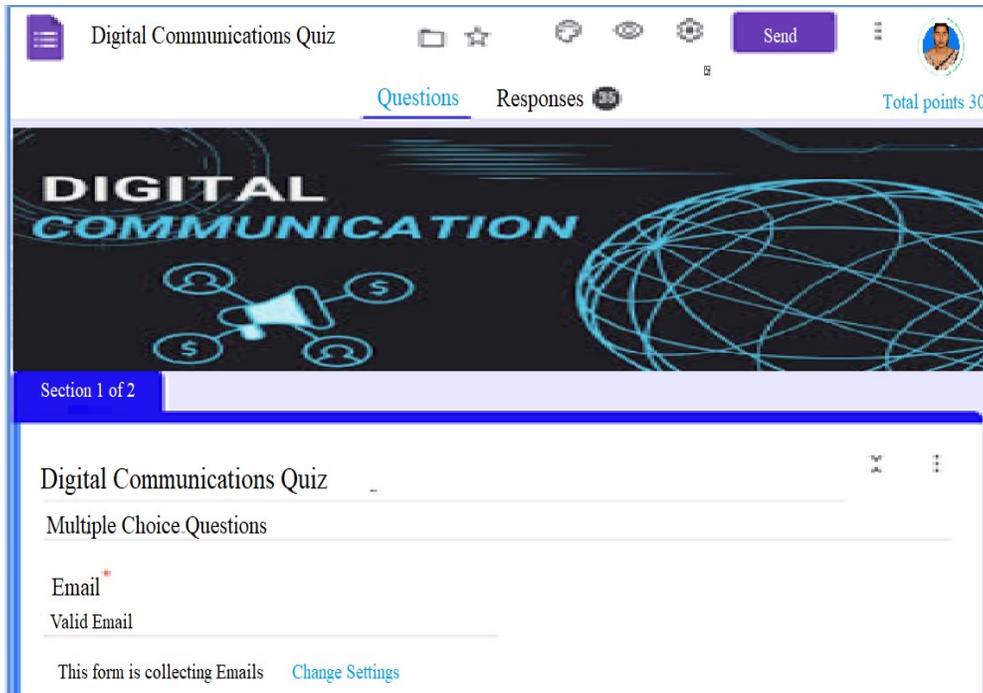


Fig 5.6.5 Digital Communication Quiz in Google Forms



Fig 5.6.6. Digital Communication Responses in Google Forms

The image shows a Google Forms interface for a quiz titled "Information Theory Quiz". At the top, there is a navigation bar with a menu icon, the title "Information Theory Quiz", a star icon, and a "Send" button. Below this, there are tabs for "Questions" and "Responses" with a count of "5/2". The main content area is divided into sections. The first section, labeled "Section 1 of 2", contains a title "Information Theory Quiz", a subtitle "Digital Modulation Schemes", an "Email" field with a red asterisk and a "Valid Email" error message, and a note "This form is collecting Emails" with a "Change Settings" link. The second section contains a "Name" field and a "Short Answer text" field.

Fig.5.6.7 Google Forms Login page



Fig 5.6.8 Google Forms Certificate

5. MIND MAPS

A Mind Map is a diagram for representing tasks, words, concepts, or items linked to and arranged around a central concept or subject using a non-linear graphical layout that allows the user to build an intuitive framework around a central concept. It can turn a long list of monotonous information into a colorful, memorable and highly organized diagram that works in line with your brains natural way of doing things. A Mind Map is an easy way to brainstorm thoughts organically without worrying about order and structure. It allows you to visually structure your ideas to help with analysis and recall. The Mind Map used for the Engineering Mechanics class is shown in figure.

Mind mapping is a highly effective way of getting information in and out of your brain. Mind mapping is a creative and logical means of note-taking and note-making that literally "maps out" your ideas. Mind mapping converts a long list of monotonous information into a colorful, memorable and highly organized diagram.

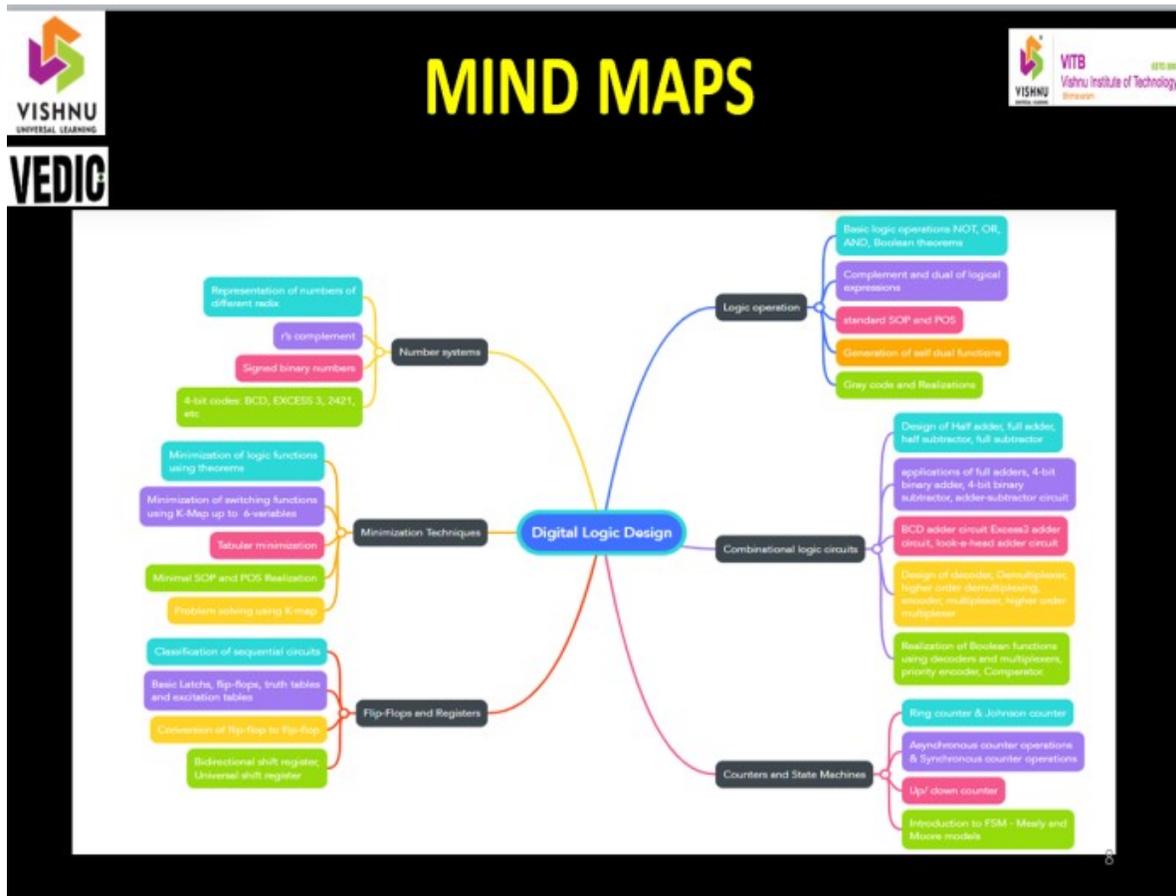


Fig 5.6.9 Mind maps on Digital Logic Design

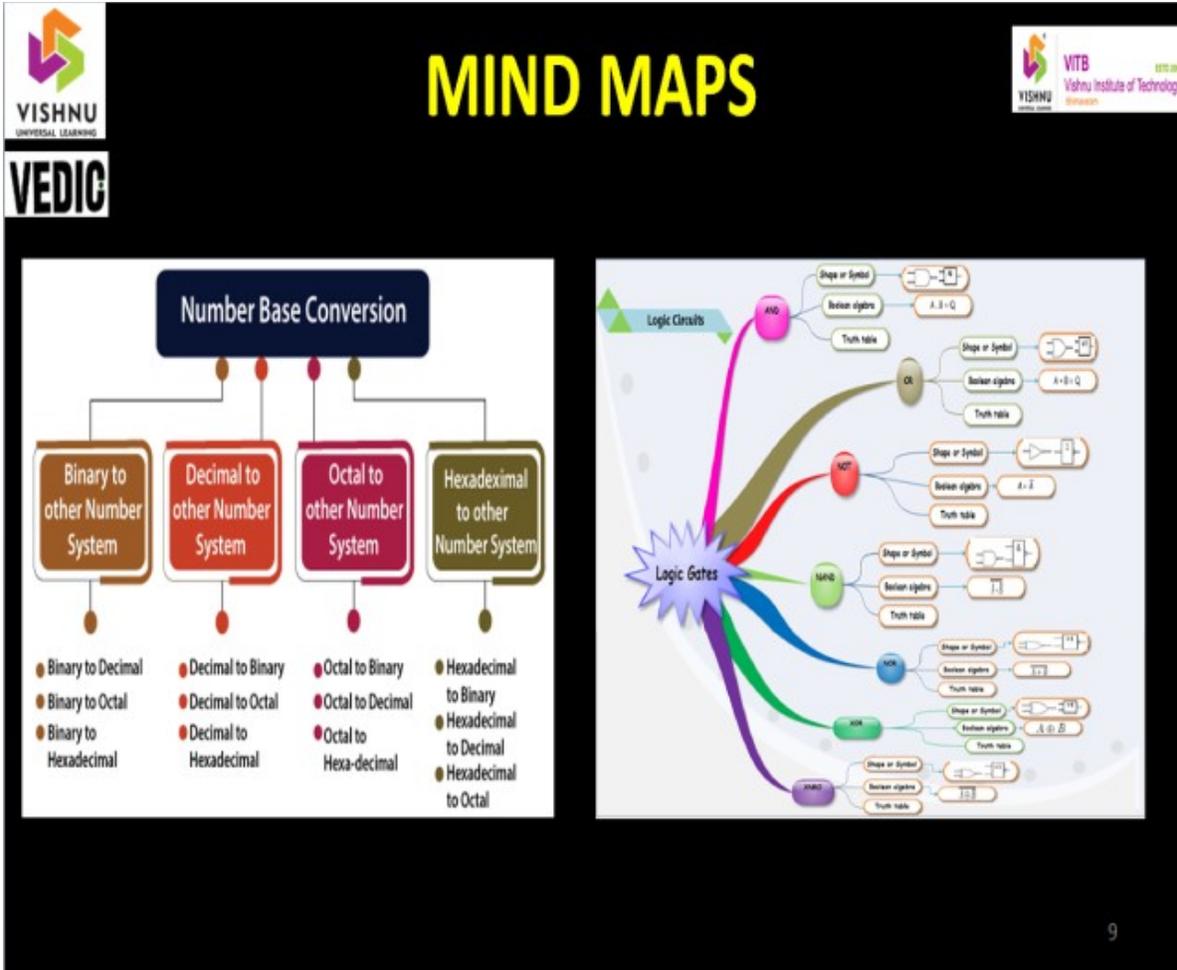


Fig 5.6.10 Mind maps on Number Systems

7. EDPUZZLE

Edpuzzle is a web-based interactive video and formative assessment tool that allows users to crop existing online videos and add content for target specific learning objectives. Faculty custom searches the extensive library of available videos and edits them with voice-overs, embedded assessment questions and when deemed necessary they upload their own videos and additional resources through this application. Faculty also draw from the site's curriculum content, assign due dates and prohibit students from fast forward watching through the video. Faculty view student's scores and progress over time as well as the length of time students took to complete a given assignment. The usage of Edpuzzle tool during the class is shown in figure.

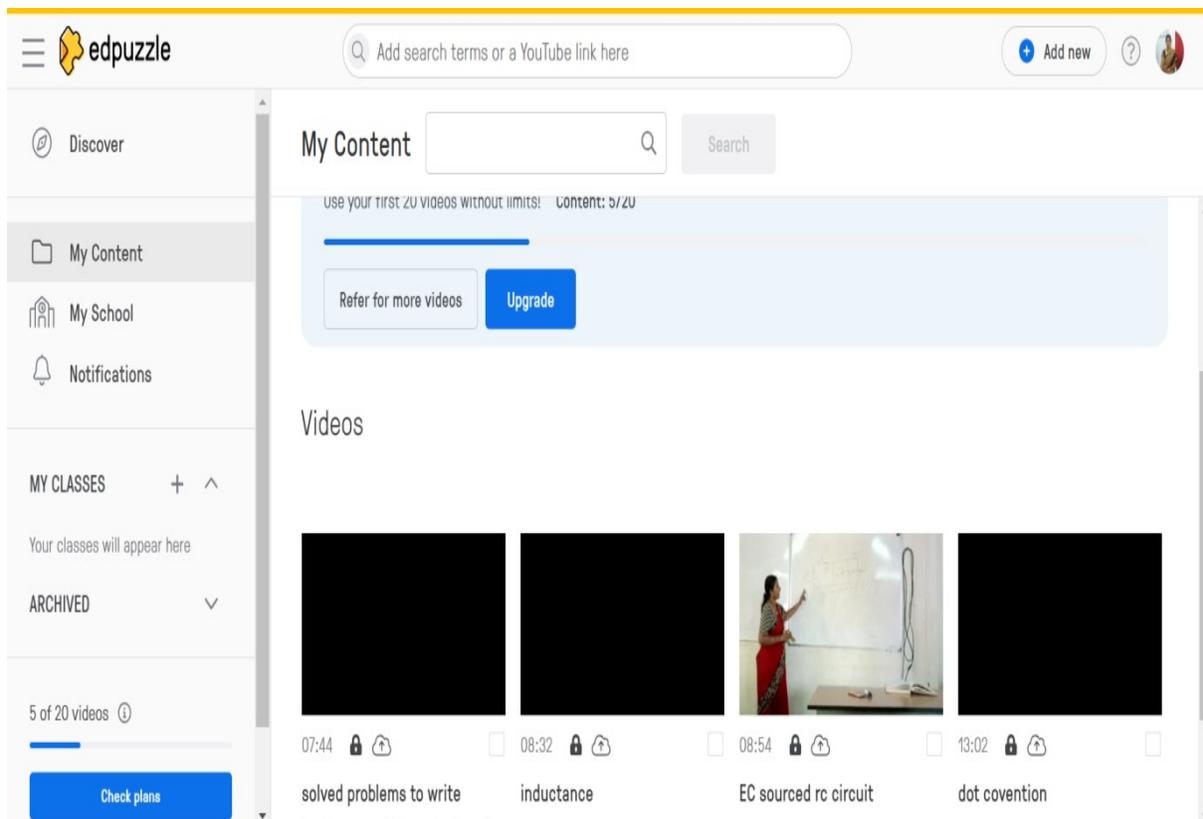


Fig 5.6.11 Edpuzzle Content Display page

7. THINK PAIR SHARE

Think-Pair-Share is an active learning strategy often used in educational institutions like Vishnu Institute of Technology (VIT) to promote student engagement and collaboration. It typically involves three steps:

Think – Students individually think about a given topic or question.

Pair – They discuss their thoughts with a partner.

Share – Pairs share their insights with the larger group or class.

At Vishnu Institute of Technology, this method may be used in classroom discussions, workshops, or group projects to encourage critical thinking and peer interaction.



Fig 5.6.12 Think Pair Share Activity in Classroom

8. HANDS ON EXPERIENCE WITH NI LAB

NI LabVIEW Academy – Vishnu Institute of Technology was established in November 2017, the NI LabVIEW Academy at VIT Bhimavaram collaborates with National Instruments (NI) to train students in signal processing, image processing, and IoT.

Key Objectives:

Training: LabVIEW & NI hardware for ECE, EEE, and Mechanical students.

R&D: Shift towards research-oriented learning & industry collaborations.

Projects: Hands-on experiments beyond the curriculum.

Global Competitiveness: Industry-ready skill development.



Fig 5.6.13 Hands-on Training in NI Lab

NPTEL

At Vishnu Institute of Technology, NPTEL plays a significant role in enhancing the e-learning experience for both faculty and students. The institute actively encourages participation in NPTEL and Swayam online courses across various disciplines, particularly in Electronics and Communication Engineering (ECE) and other interdisciplinary fields.

NPTEL Initiatives at Vishnu Institute of Technology:

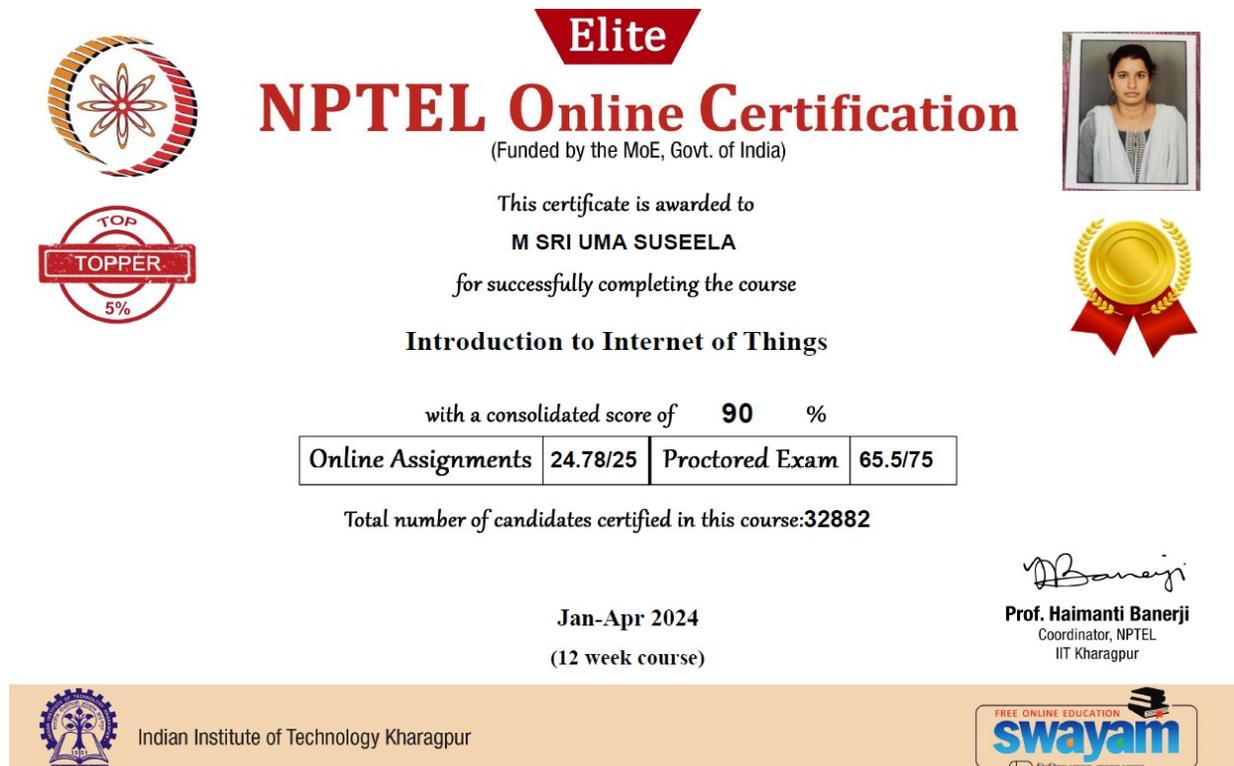
Faculty Certifications: Faculty members have successfully completed NPTEL and Swayam courses, earning certifications in diverse subjects.

Faculty Development Programs (FDPs): Many faculty members have obtained FDP certifications for professional growth and curriculum enhancement.

Student Participation: Students are motivated to enroll in NPTEL-Swayam courses to enhance their technical and analytical skills.

Faculty Mentorship: Some faculty members act as mentors for specific courses, assisting students with effective learning strategies and course completion.

The institute remains committed to leveraging NPTEL's resources to improve the academic and professional competencies of both faculty and students.



The certificate is titled "Elite NPTEL Online Certification" and is awarded to M Sri Uma Suseela for successfully completing the course "Introduction to Internet of Things" with a consolidated score of 90%. The certificate includes a table of scores for Online Assignments (24.78/25) and Proctored Exam (65.5/75). It also features the NPTEL logo, a "TOP TOPPER 5%" badge, a portrait of the student, a gold medal, and the signature of Prof. Haimanti Banerji, Coordinator of NPTEL at IIT Kharagpur. The course was held from Jan-Apr 2024 (12 week course). The total number of candidates certified in this course is 32882. Logos for Indian Institute of Technology Kharagpur and Swayam are also present.

Elite

NPTEL Online Certification
(Funded by the MoE, Govt. of India)

This certificate is awarded to
M SRI UMA SUSEELA
for successfully completing the course

Introduction to Internet of Things

with a consolidated score of **90** %

Online Assignments	24.78/25	Proctored Exam	65.5/75
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Total number of candidates certified in this course: **32882**

Jan-Apr 2024
(12 week course)

Prof. Haimanti Banerji
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

FREE ONLINE EDUCATION
swayam
एनपीटीईल एकेडमी, स्वयं एकेडमी

Fig 5.6.14 NPTEL Elite and Topper Certificate

ATL:

The Assistive Technology Lab (ATL) at Vishnu Institute of Technology, established in 2012 in collaboration with UMass Lowell, develops innovative solutions for differently abled individuals. It focuses on project development, research, patents, and product development, collaborating with local institutions to address needs. ATL provides hands-on experience for students, fostering technical skills and social responsibility, and has achieved national recognition for its impactful projects.



Fig 5.6.15 ATL World Disability day Event

GPX-10:

GPX-10 AI Processor by Ambient Scientific: An AI System-on-Chip (SoC) designed for ultra-low power applications in portable and battery-powered devices, featuring 10 proprietary AI cores. We are providing GPX-10 training program to train the students and make them do some projects using GPX-10 kits.



Fig 5.6.16 Session on DPX-10 for Faculty

The following faculty is identified as NPTEL stars in Swayam for their continuous and effective E-learning in various courses.

Table 5.6.1 List of NPTEL Stars

Name of the Faculty	NPTEL Star	Link
Mr. Ch.Srinivas	NPTEL Enthusiast	https://nptel.ac.in/LocalChapter/statistics/2397/
	NPTEL Motivated Learner	
	NPTEL Super Star	
	NPTEL Believers	
	NPTEL Discipline Star	
Mrs.N.D.N.Lakshmi	NPTEL Discipline Star	
Mr.K.Ramesh Chandra	Faculty Domain-Advanced	



Fig 5.6.17 NPTEL Faculty-Domain Advanced Certificate



Fig 5.6.18 NPTEL Discipline Star Certificate

ONLINE E-SOURCES:

The following are some of the e-sources available in digital library to access various reputed journals and books for teaching and learning.

Table 5.6.2 List of E-Learning Courses in Digital Library

S. No.	Name of the Online E-Source Package
1	N-List Programme : http://nlist.inflibnet.ac.in
2	IEEE: https://ieeexplore.ieee.org/Xplore/home.jsp
3	DELNET: www.delnet.in
4	National Digital Library of India : https://ndl.iitkgp.ac.in/

1. N-LIST PROGRAMME: <http://nlist.inflibnet.ac.in>

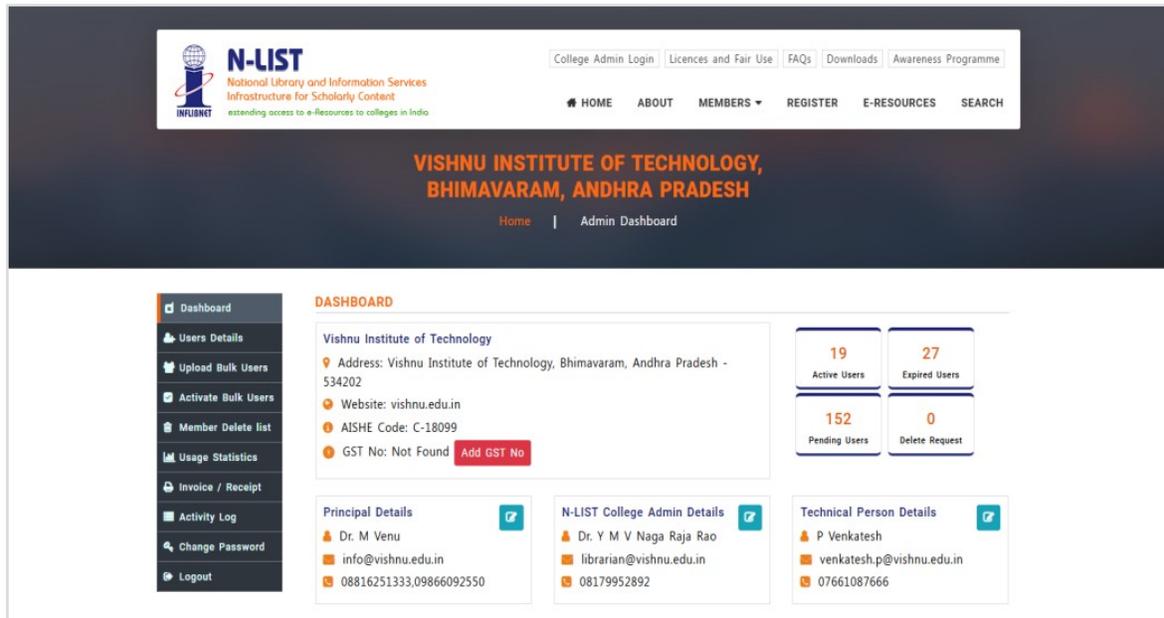


Fig 5.6.19 Vishnu Institute of Technology N-List Login Page

2. IEEE: <https://ieeexplore.ieee.org/Xplore/home.jsp>

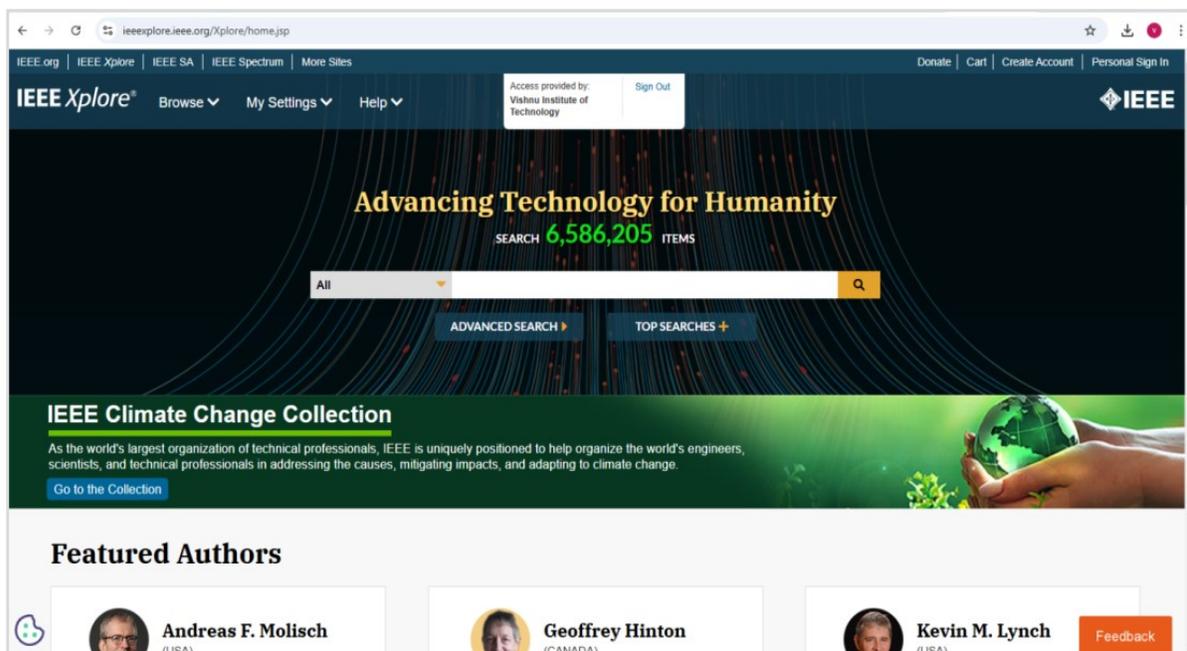


Fig.5.6.20 Vishnu Institute of Technology IEEE Login Page

3. DELNET: www.delnet.in



Fig 5.6.21 Vishnu Institute of Technology DELNET Login Page

4. NATIONAL DIGITAL LIBRARY OF INDIA: <https://ndl.iitkgp.ac.in/>

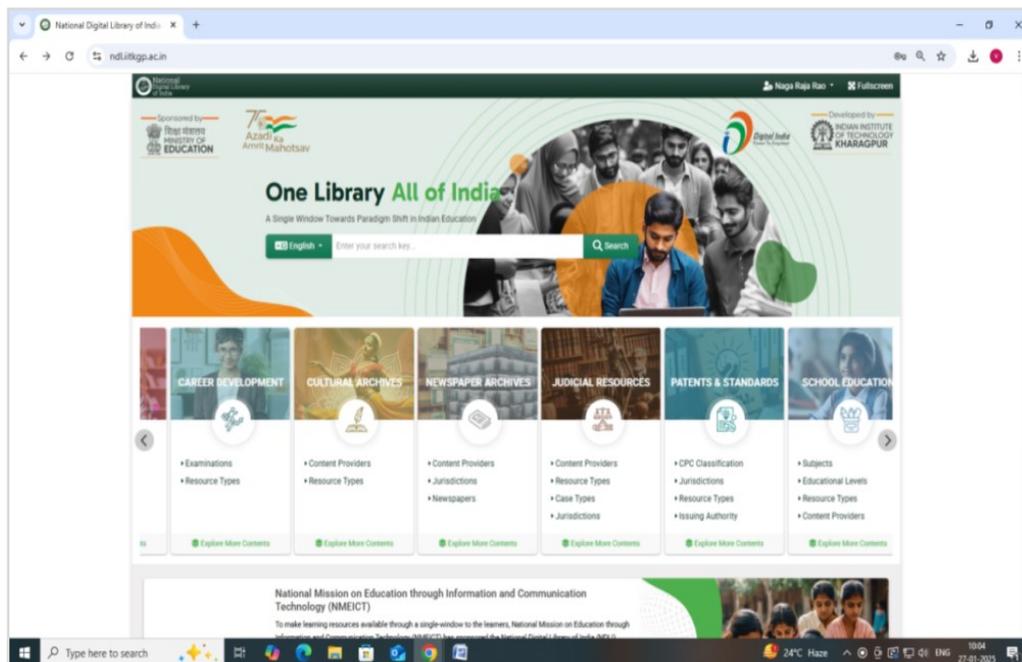


Fig 5.6.22 Vishnu Institute of Technology National Digital Library of India Login Page