



INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)
(Deemed to be University Estd. u/s 3 of the UGC Act, 1956)
PALLAVARAM, THALAMBUR, PERIYAPALAYAM-CHENNAI
ACCREDITED BY **NAAC** WITH **A++** GRADE
INSTITUTION WITH **UGC 12B** STATUS

ICT ENABLED TOOLS FOR EFFECTIVE TEACHING LEARNING PROCESS



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Vels Institute of Science, Technology
& Advanced Studies (VISTAS)
Pallavaram, Chennai - 600 117.

INDEX

S.NO	CONTENT	PAGE NO.
1	INTRODUCTION	1
2	LEARNING MANAGEMENT SYSTEM	3
3	VELS KNOWLEDGE RESOURCE CENTER	6
4	ONLINE TOOLS IN TEACHING AND LEARNING 4.1 Marrow App 4.2 Virtual Laboratories 4.3 Other Tools	17
5	E-RESOURCES DEVELOPED AND USED BY FACULTY	24
6	ONLINE VIDEO CONFERENCING PLATFORMS	40
7	ICT FACILITIES	43




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1. INTRODUCTION

ICT enhances education in numerous ways: by boosting learner motivation and engagement, facilitating the acquisition of fundamental skills, and improving teacher training. Integrating ICT into education holds several merits. It not only revolutionizes traditional teaching methods but also demands that teachers be more creative in adapting and customizing their teaching materials and strategies. Adequate training is provided to teachers who successfully utilize this powerful tool for educational change and reform in instruction, learning, and assessment. Through ICT, learning can take place anytime and anywhere; for instance, online course materials are accessible 24/7. ICT helps transform teaching environments into learner-centered ones, offering purpose-designed applications that cater to diverse learning needs.

VISTAS collaborates with senior academicians, educationalists, and experts from EdTech industries to conduct faculty development and teacher education programs. These initiatives equip faculty members to integrate technology into the teaching-learning process, including outcome-based education and various pedagogical methods such as blended learning, flipped classrooms, collaborative learning, and problem-based learning. During the pandemic, online classes using tools like GSUITE, WebEx, and ZOOM, along with proctored online end-semester examinations, were conducted. Electronic resource packages like MOOCs, NPTEL, SPOKEN TUTORIAL, E-pathshala and the Digital Library are accessible. NPTEL courses can be accessed from the library's server, integrated into the Learning Management System (LMS).

VISTAS faculty members utilize various ICT tools such as desktops, laptops, projectors, digital cameras, printers, photocopiers, tablets, pen drives, iPads, scanners, microphones, interactive whiteboards, DVDs, CDs, and flash drives. They effectively employ these resources to demonstrate concepts and assess students' understanding through quizzes, seminars, and concept maps. Lecture capturing system by Upgrad is available for students to review and revise lectures at their convenience. Lab manuals are provided to students well in advance, and virtual labs are utilized for simulations. Online drawing tools like concept maps and mind maps facilitate student-centric activities. Academic books with academic plans, lesson plans, lab manuals, and question banks with solutions are made available at the beginning of each semester. Google Classroom is used to manage and post course-related information, including learning materials, quizzes, lab submissions, evaluations, and assignments. Regular online quizzes and polls gather student feedback.



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ICT serves to expand access to education. Faculty members from all departments conduct seminars, webinars, workshops, and guest lectures on new developments in core subjects to enhance teaching and learning. Seminar halls are equipped with multimedia facilities, and the library offers a wide range of E-resources through the VISTAS consortium, accessible 24/7 via remote access. The library provides ample books, journals, e-journals, and e-books, with research journals available online through a proxy server on campus.



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2. LEARNING MANAGEMENT SYSTEM

VISTAS has its own Learning Management System (LMS) on Moodle, UpGrad and Google Classroom to host a repository of digital content developed by its faculty. Students have on-demand access to resources, enabling them to retrieve what they need when they need it. Online assessments enable students to receive automatic notifications if they're falling behind on submissions. The VISTAS LMS supports self-paced learning, offering high-quality technical video lectures that students can watch as many times as necessary until they fully grasp the concepts.

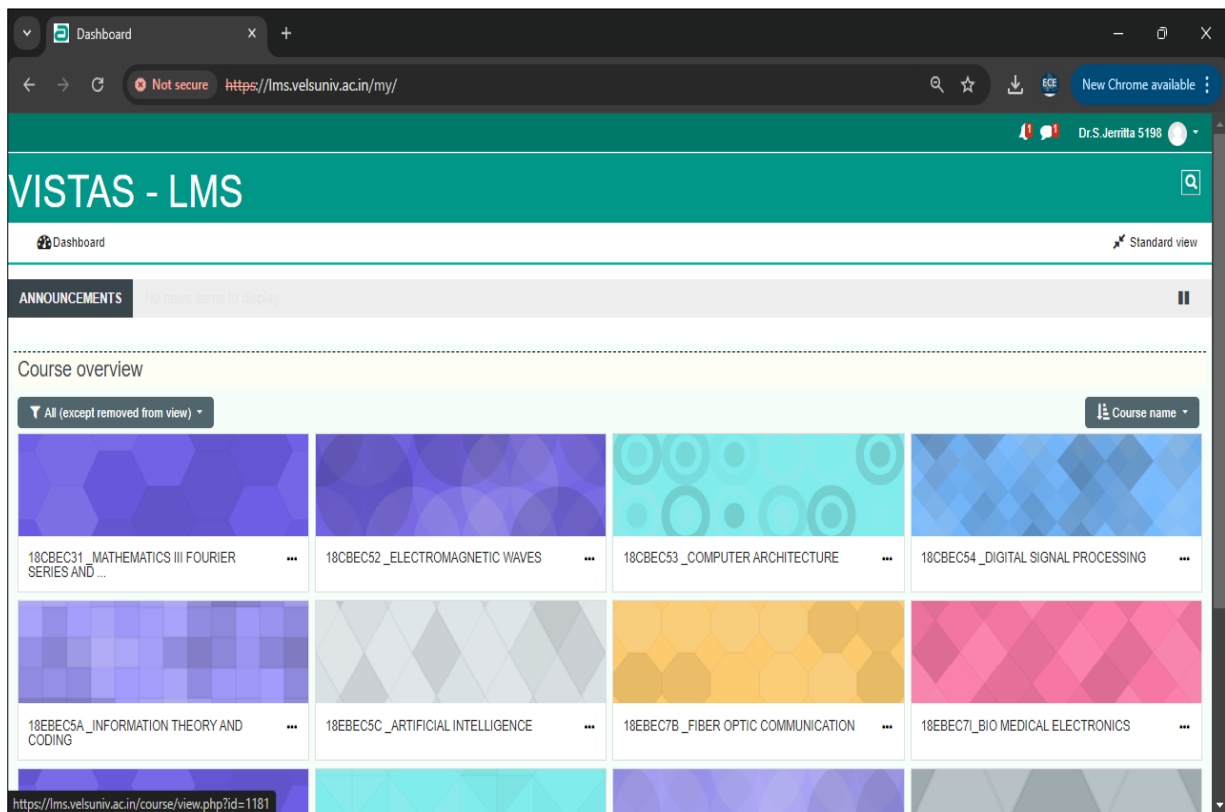



Figure 1: VISTAS LMS - Faculty Portal


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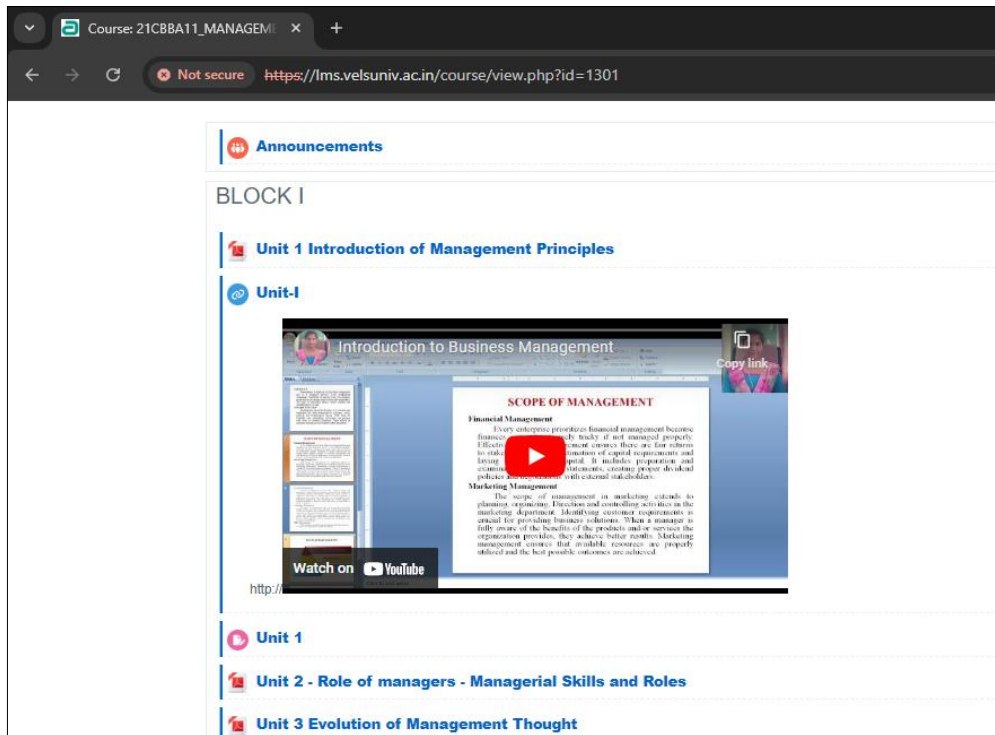


Figure 2: E-Content on Institutional LMS

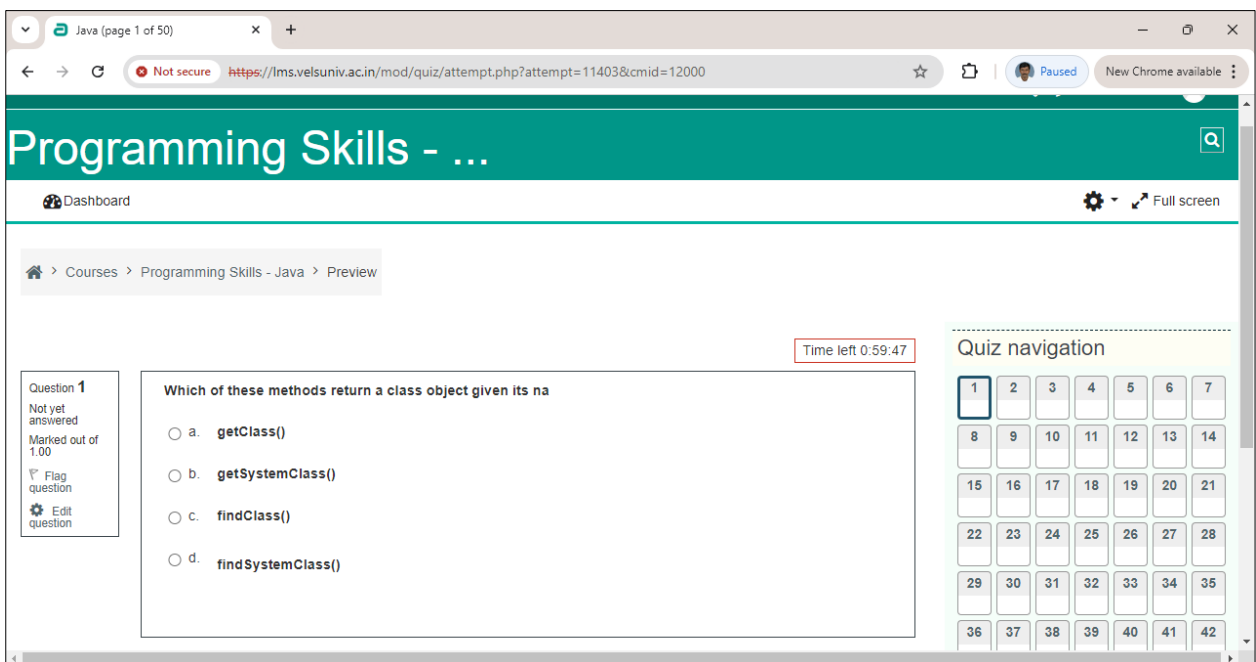


Figure 3: Quiz Conducted on Institutional LMS


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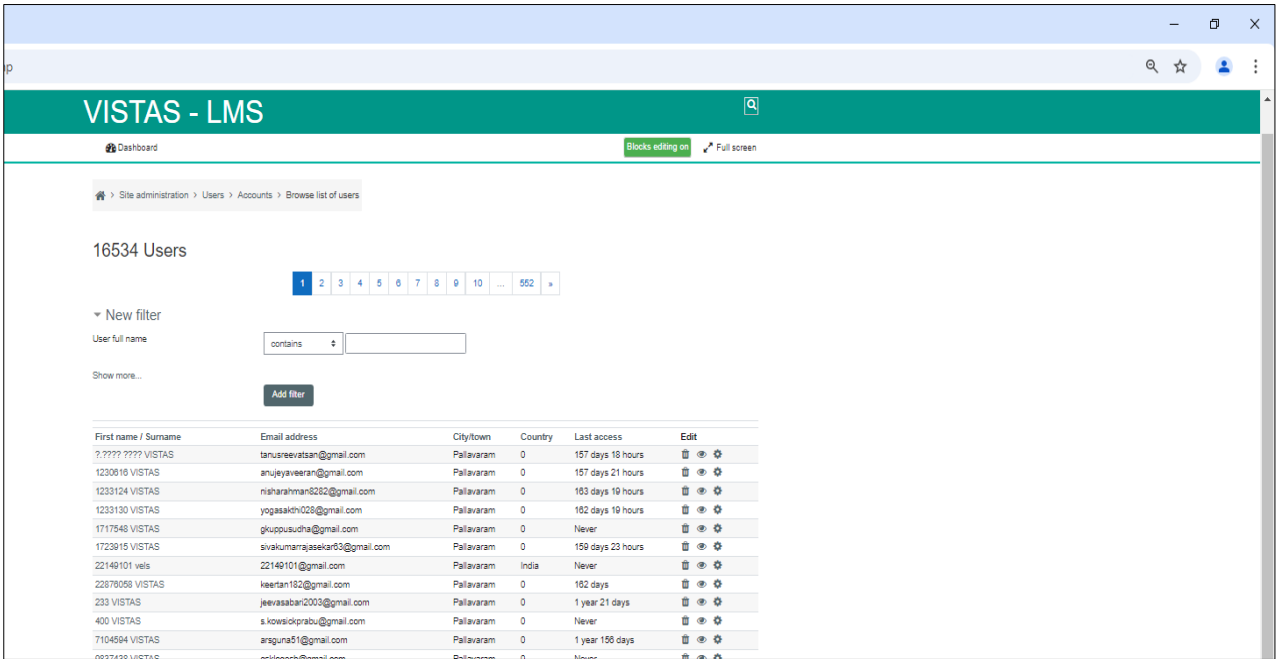


Figure 4: VISTAS LMS Admin Portal indicating the number of users

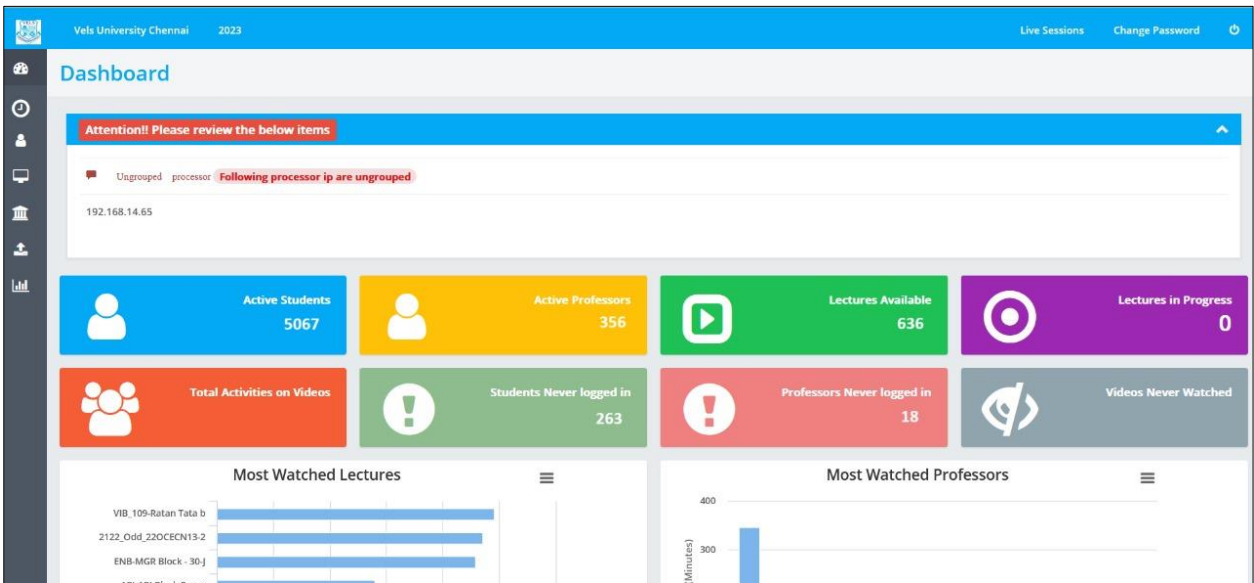


Figure 5: Upgrad Admin Portal


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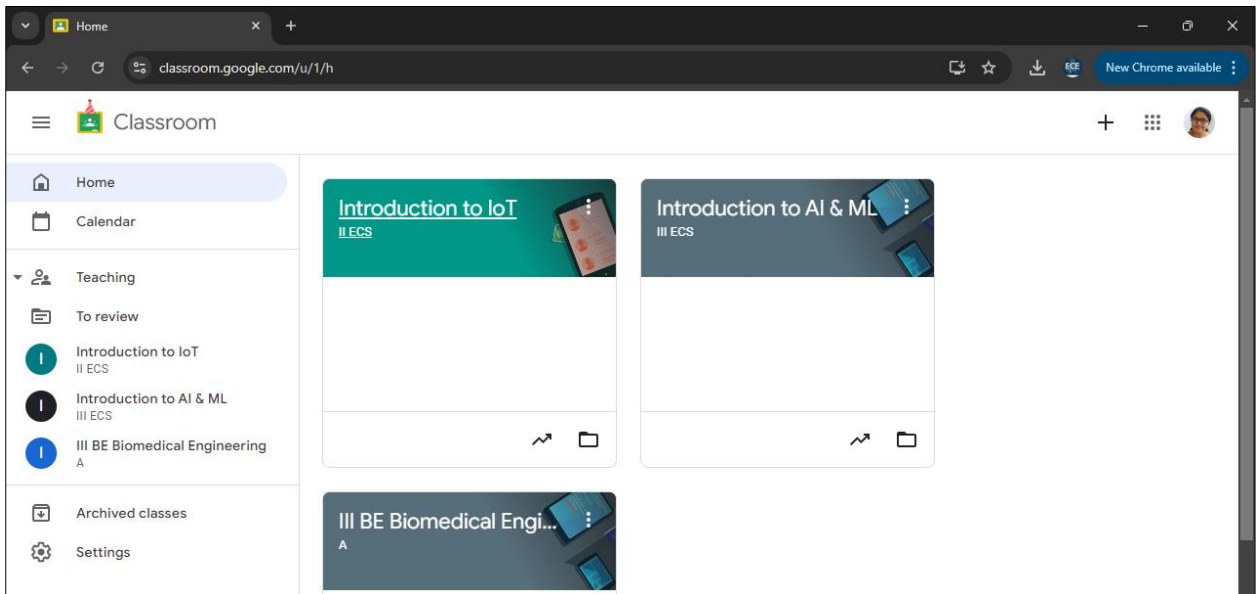


Figure 6: Google Classroom used by faculty

3. VELS KNOWLEDGE RESOURCE CENTER

The Vels Knowledge Resource Centre has been set up to provide students with the opportunity to gain additional knowledge through online courses offered by platforms such as EDX, TED, NPTEL, Khan Academy, MIT, and Coursera. Access to these resources is available inside and outside the campus.

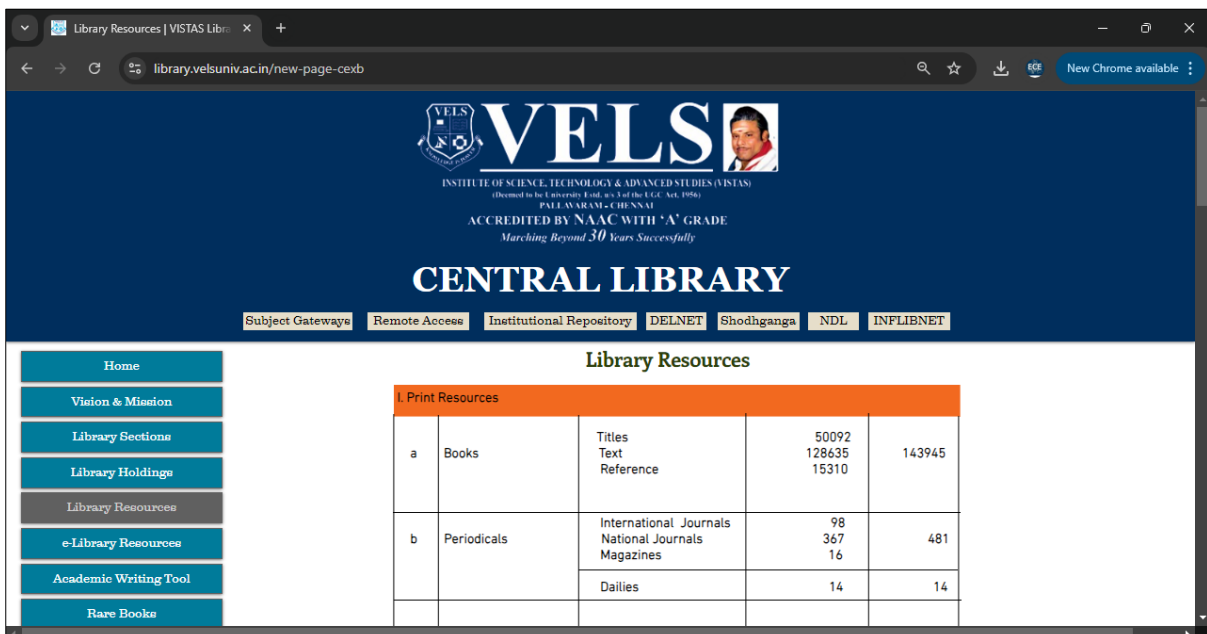



Figure 7: Vels Knowledge Resource Center


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Table 1: E-Resources at Vels Knowledge Resource Center

S.NO.	Name of the e-Resource	Name of service subscribed to	Number of e-Books/E-Journals
1	ProQuest Academic Complete	E - Books	206531 E-Books
2	IEEE - ASPP Online	E - Journals	199 Journals
3	ASME - American Society of Mechanical Engineers	E - Journals	32 E-Journals
4	Bentham Science	E - Journals	58 E-Journals
5	EBSCOhost - Academic Search Premier	E - Journals	3100+ E-Journals
6	EBSCOhost - Business Source Elite	E - Journals	1000+ E-Journals
7	Proquest ABI / Inform Global	E - Journals	2500+ Online Publications
8	J-Gate Social Science & Humanities	E - Journals	3758 E-Journals
9	Inventi	E - Journals	58 E-Journals
10	DVL Online	E-Journals & E-Books	3193 e-Journals 1506 e-Books
11	Scopus	Abstract and Citation Database	-
12	Micromedex Clinical Knowledge Solutions	Online Database	Drug Information
13	SCC Online	Online Database	Supreme Court Case Finder
14	AIR Comprehensive	Online Database	Case Reports
15	E-ShodhSindhu	Consortia	-
16	Shodhganga	Electronic Theses & Dissertations	-
17	SWAYAM	Membership	-
18	DELNET	Membership	-
19	British Council	Membership	-
20	MALIBNET	Membership	-
21	INFED	Remote Access	-
22	VIDWAN	Expert Database and National Researcher Network	-
23	SheRNI	She Research Network in India	-
24	IRINS	Indian Research Information Network System	-
25	NDLI	Membership	-


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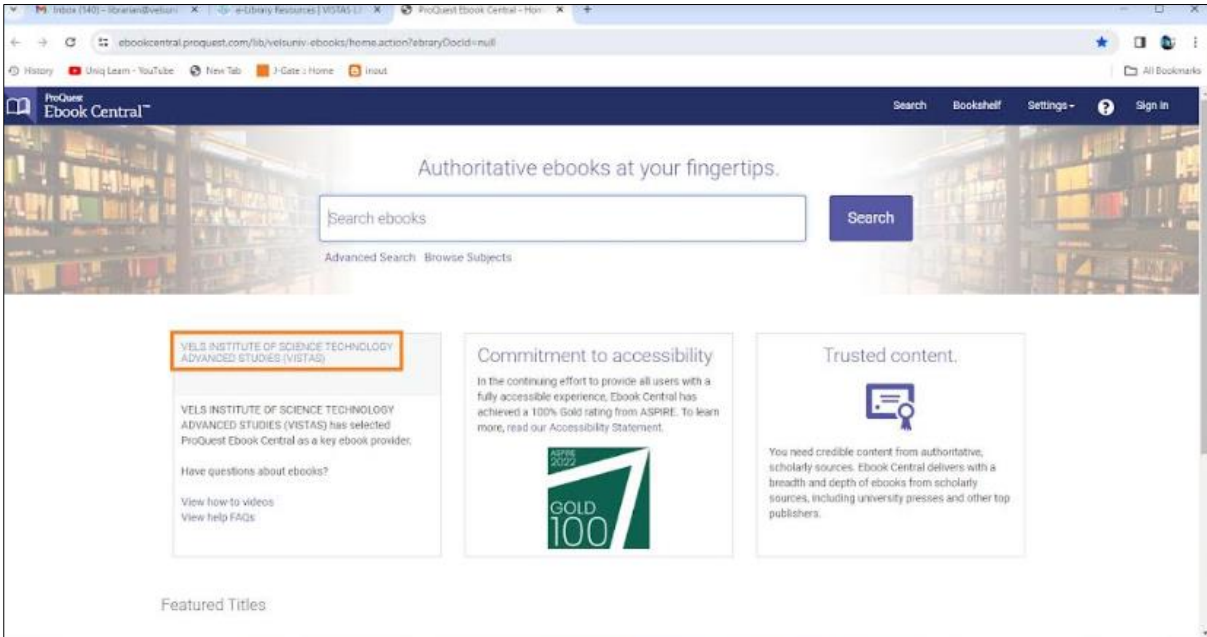


Figure 8: VISTAS- ProQuest



Figure 9: VISTAS - IEEE Xplore


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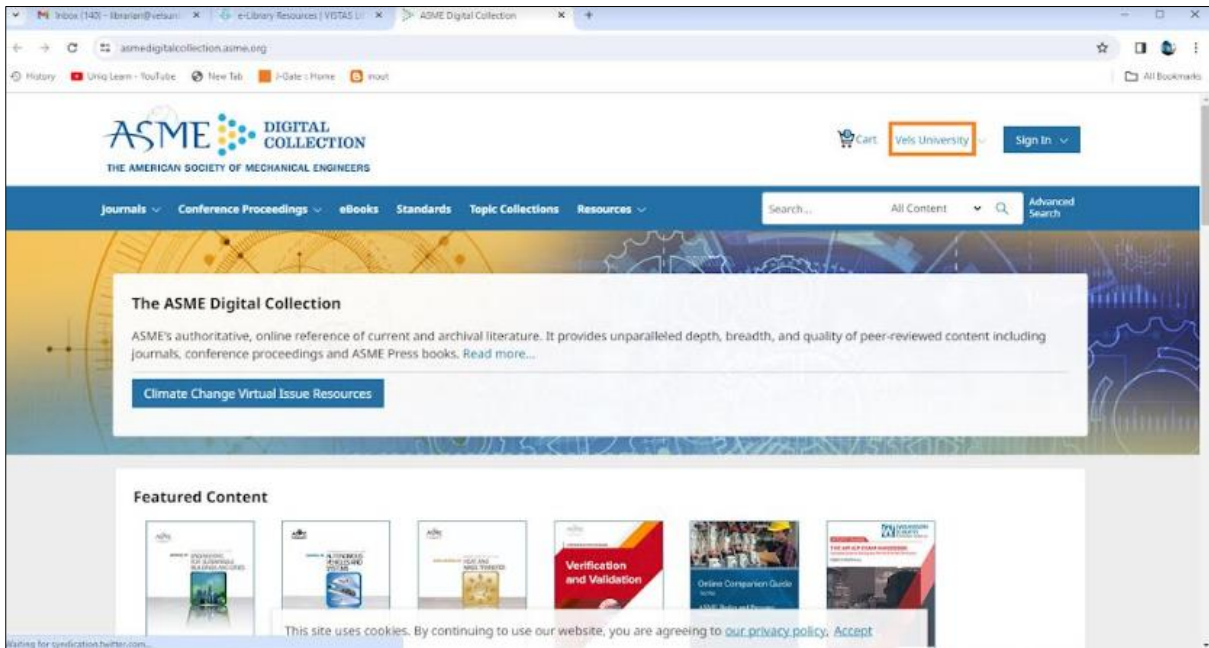


Figure 10: VISTAS-ASME

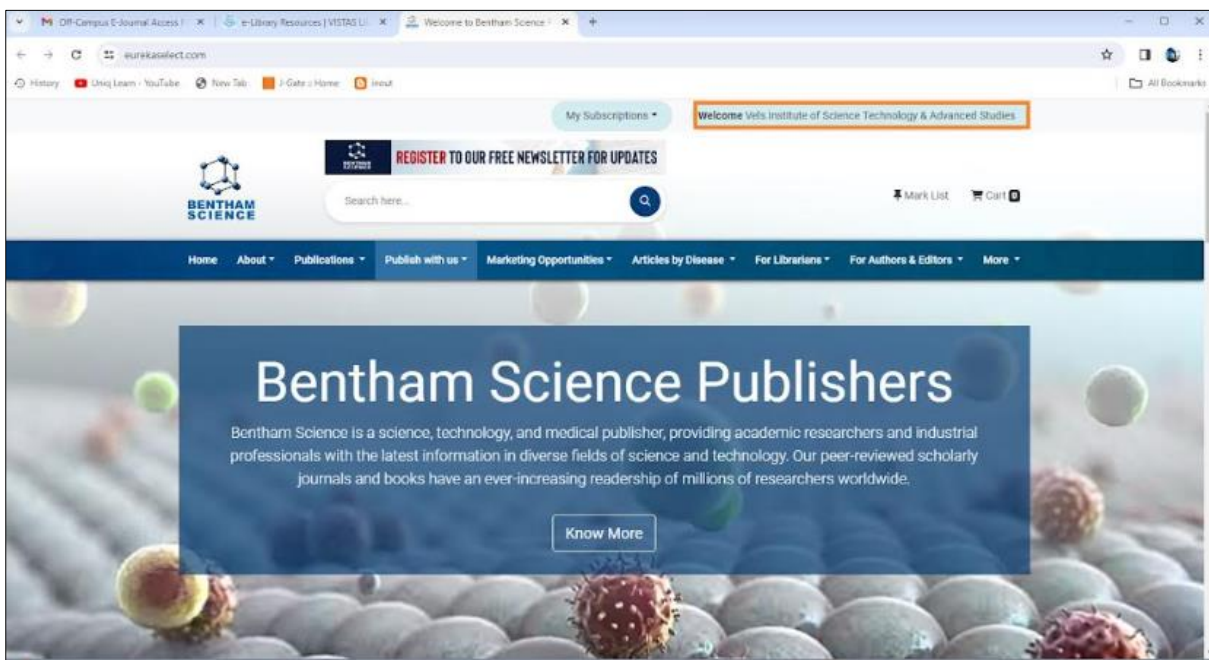



Figure 11: VISTAS- Bentham Science


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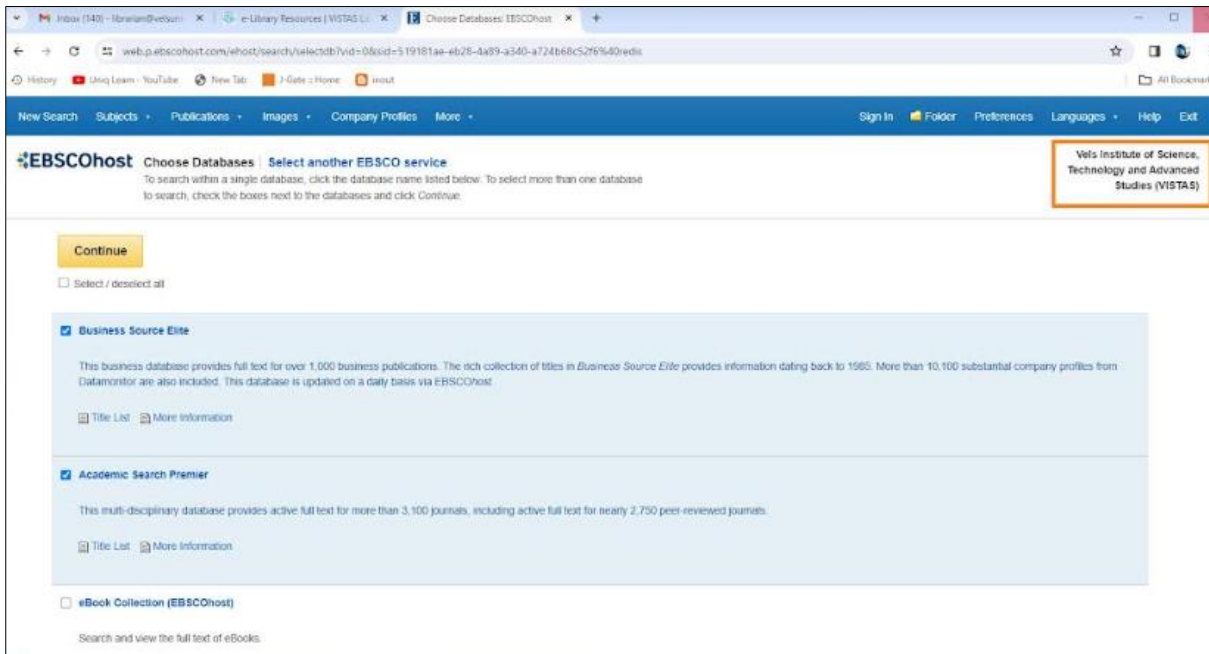


Figure 12: VISTAS EBSCO Host

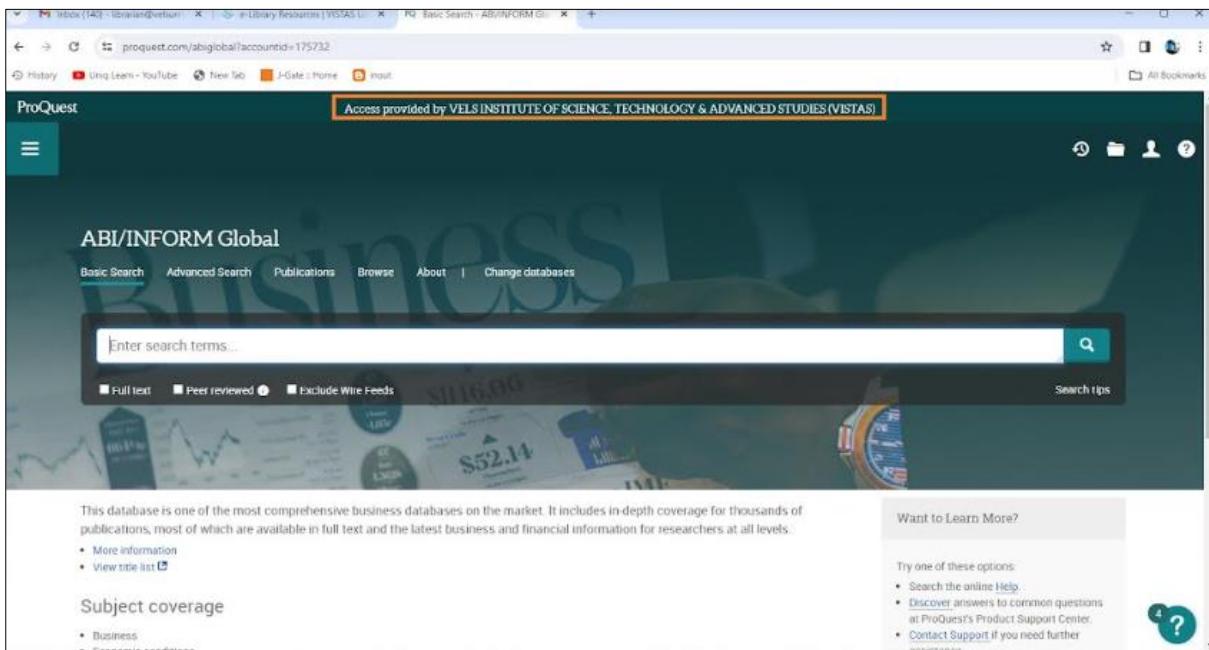


Figure 13: VISTAS Proquest ABI/Inform Global


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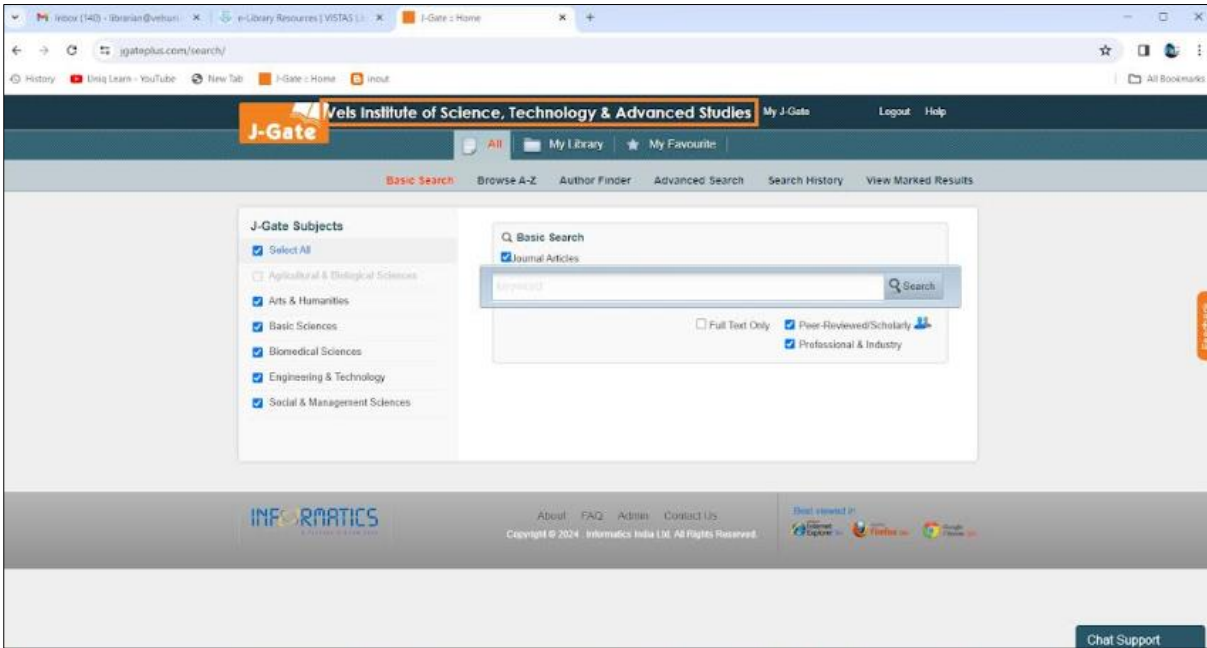


Figure 14: VISTAS - J-Gate

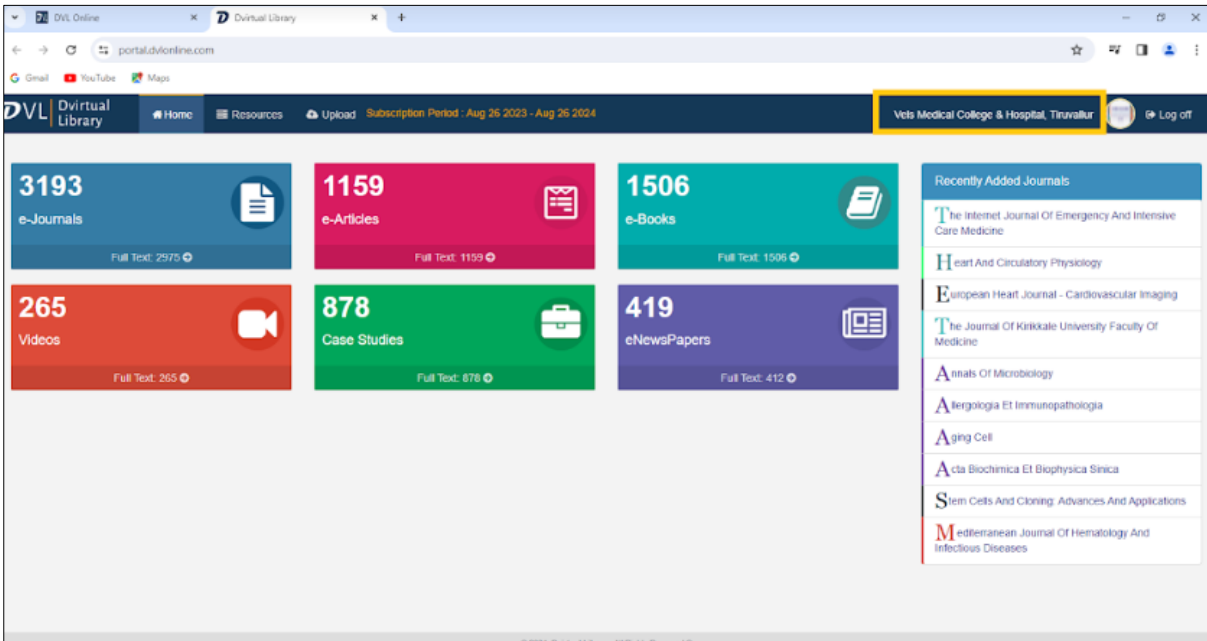


Figure 15: VMCH - DVL Digital Library


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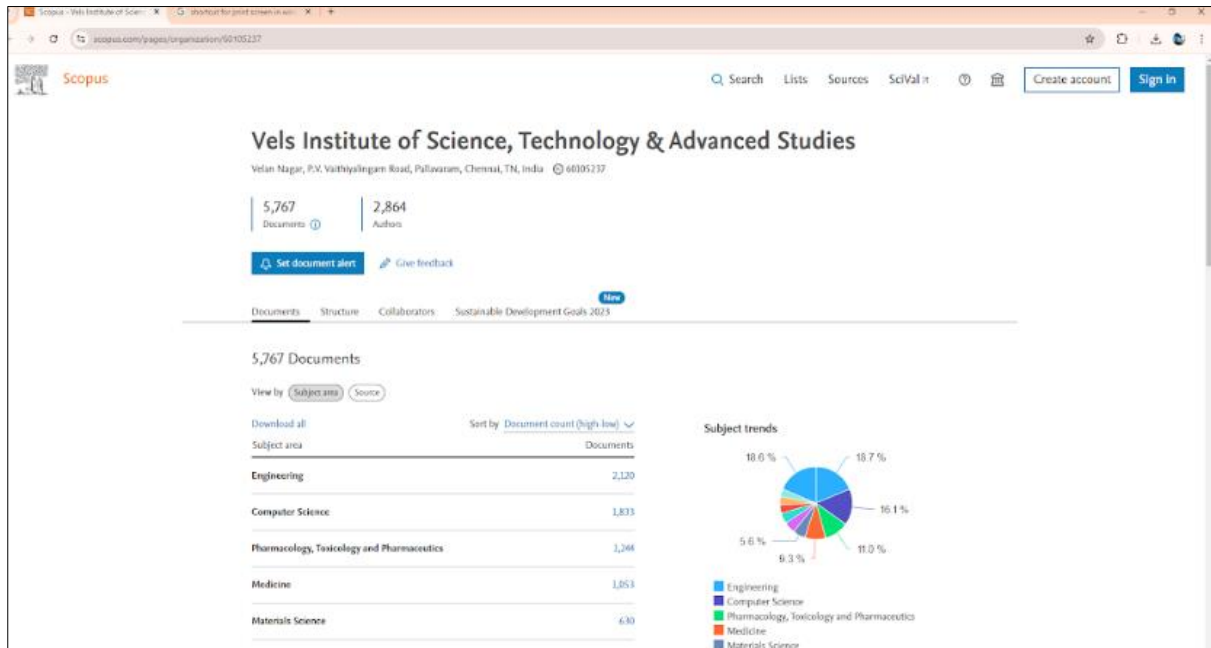


Figure 16: VISTAS – SCOPUS

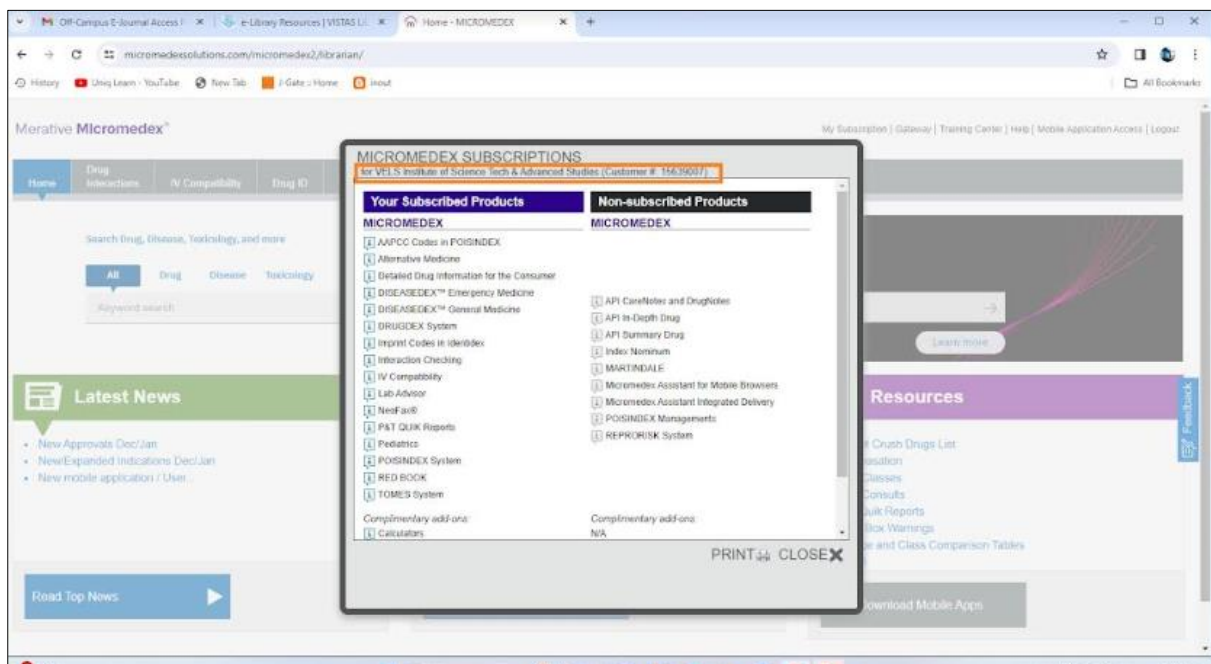


Figure 17: VISTAS - Micromedex Clinical Knowledge Solutions

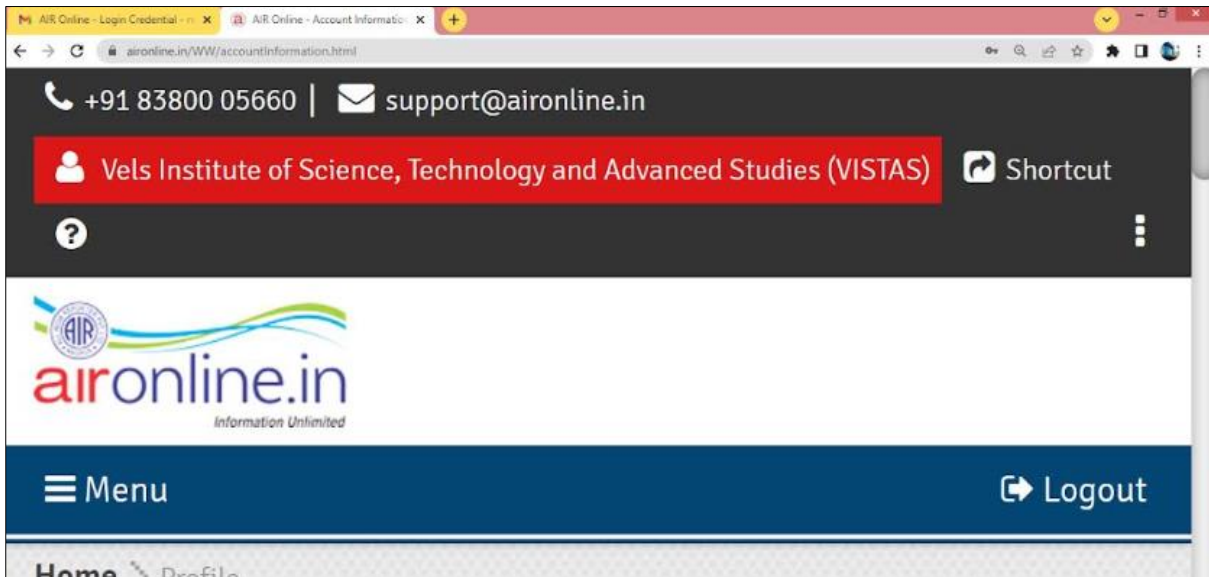


Figure 18: VISTAS - AIR Comprehensive Database

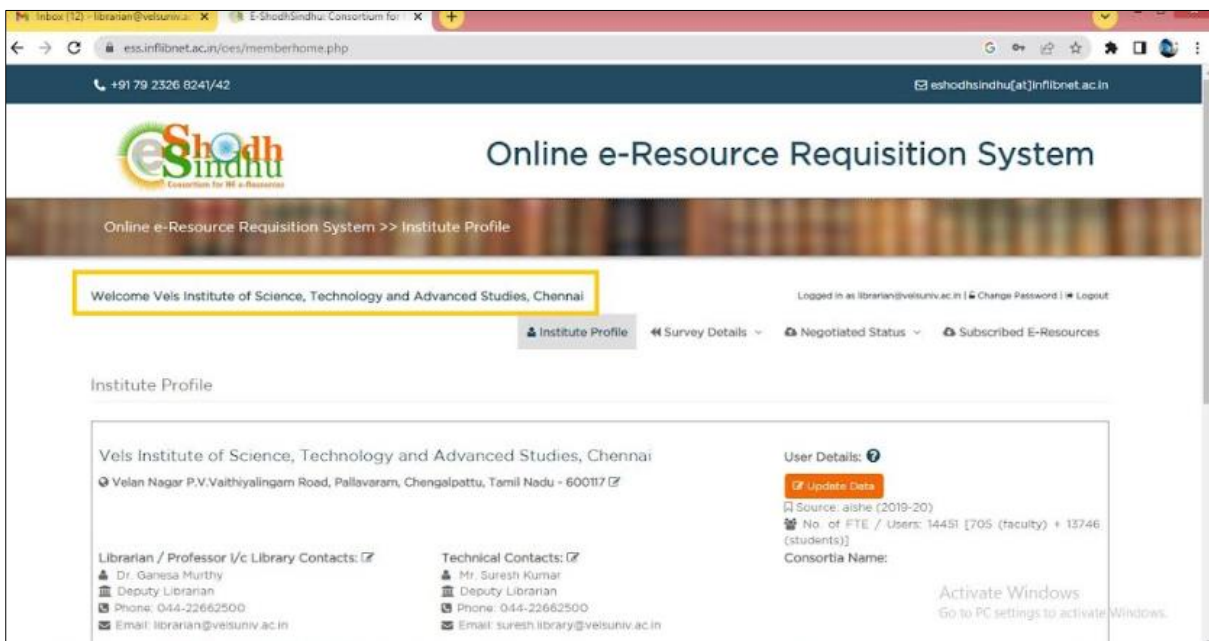


Figure 19: VISTAS E-ShodhSindhu



Figure 20: VISTAS Shodhganga Portal

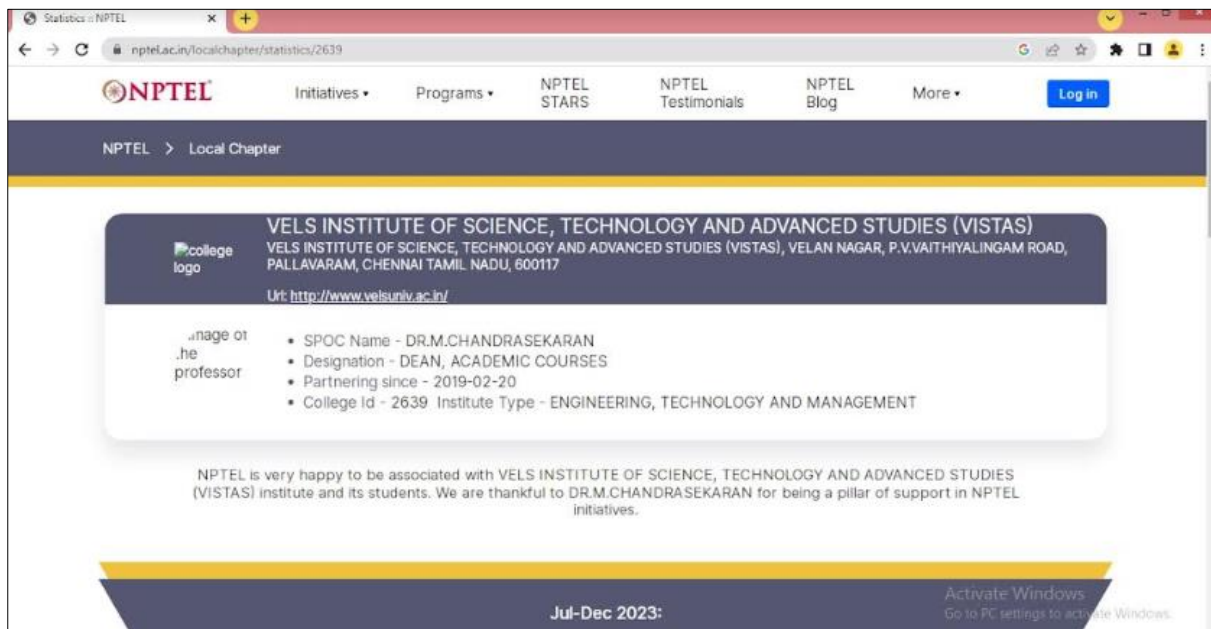


Figure 21: VISTAS SWAYAM/NPTEL

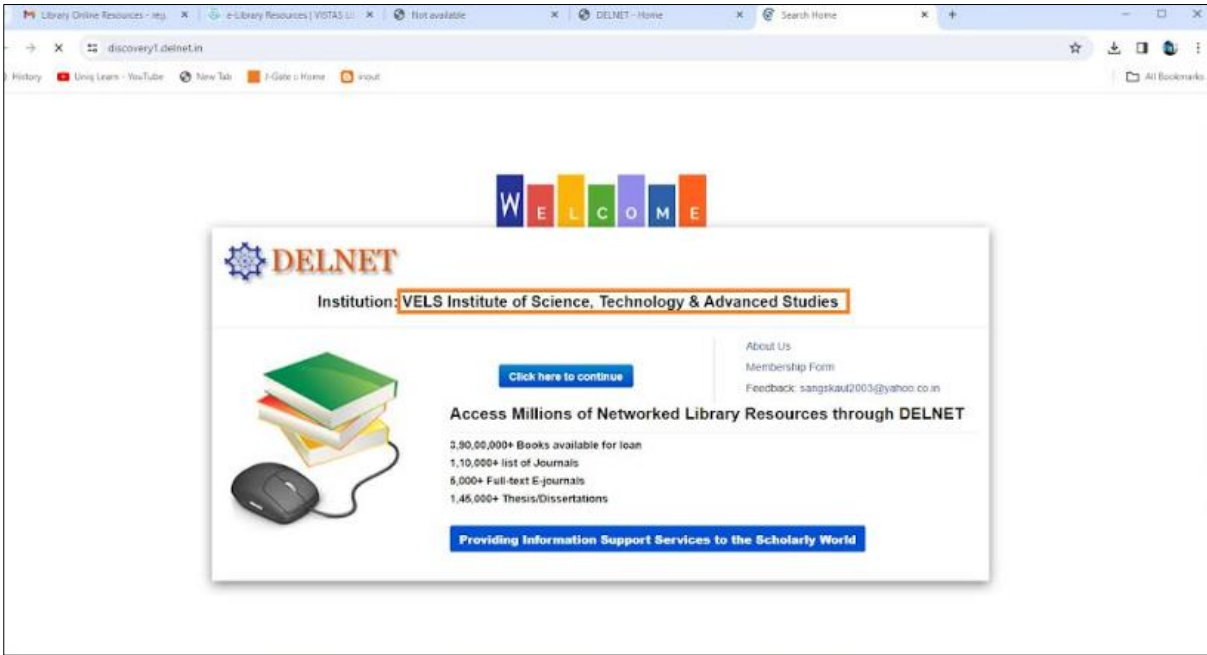


Figure 22: VISTAS - DELNET

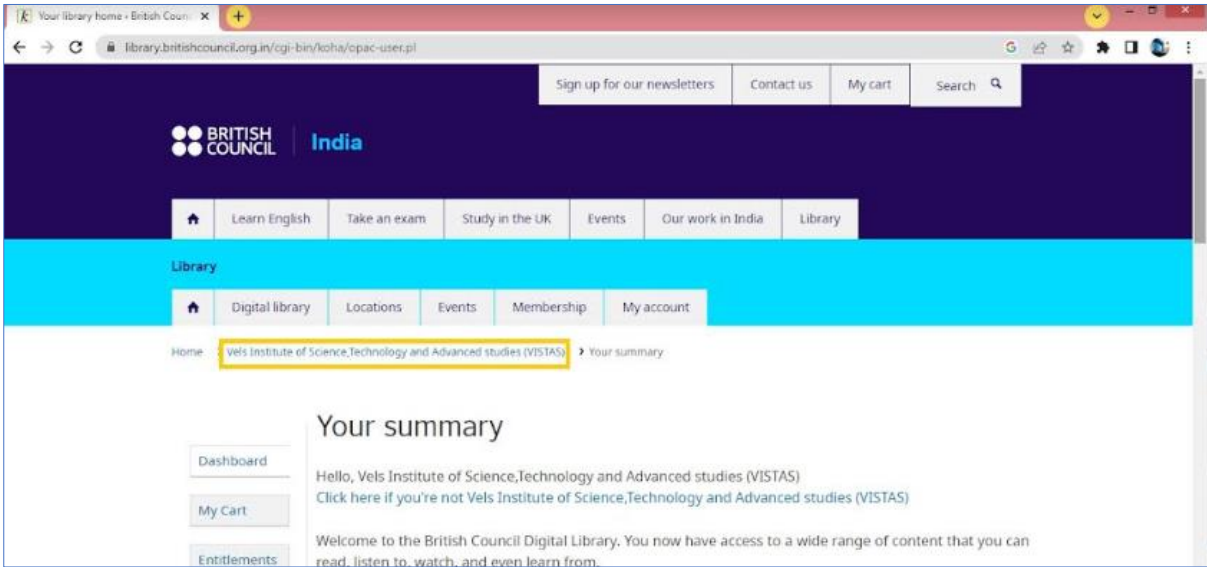


Figure 23: VISTAS - British Council Digital Library

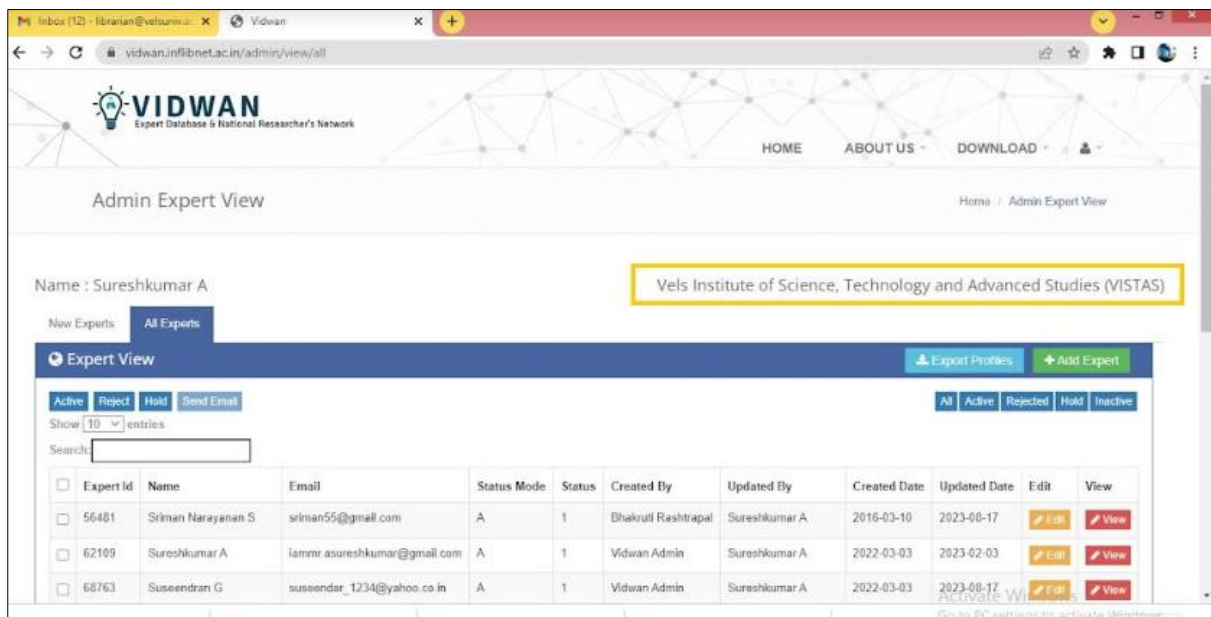


Figure 24: VISTAS – VIDWAN

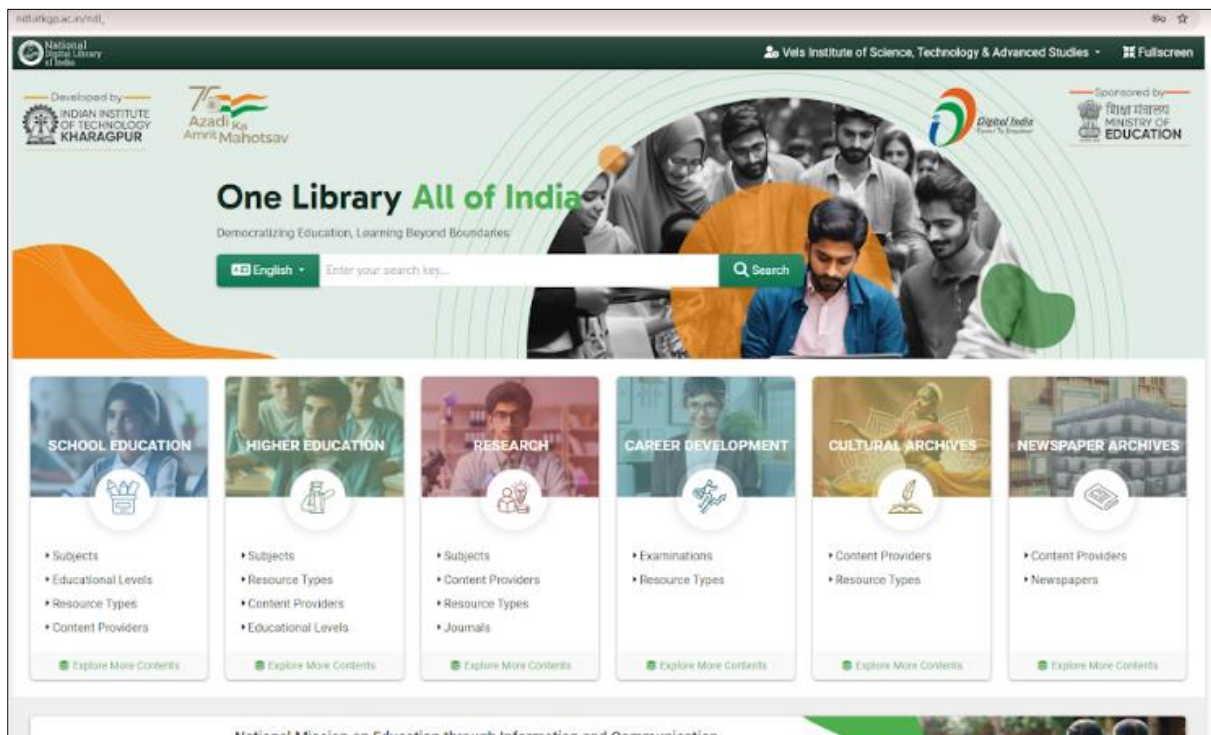


Figure 25: VISTAS - NDLI Portal

4. ONLINE TOOLS IN TEACHING AND LEARNING

a. Marrow App

VISTAS provides access to the Marrow App, an online learning platform primarily designed for medical students and professionals preparing for competitive exams such as the NEET PG, AIIMS, and other postgraduate medical entrance exams in India. It offers a comprehensive set of study materials, including video lectures, question banks, and detailed test series, all curated by leading medical educators.

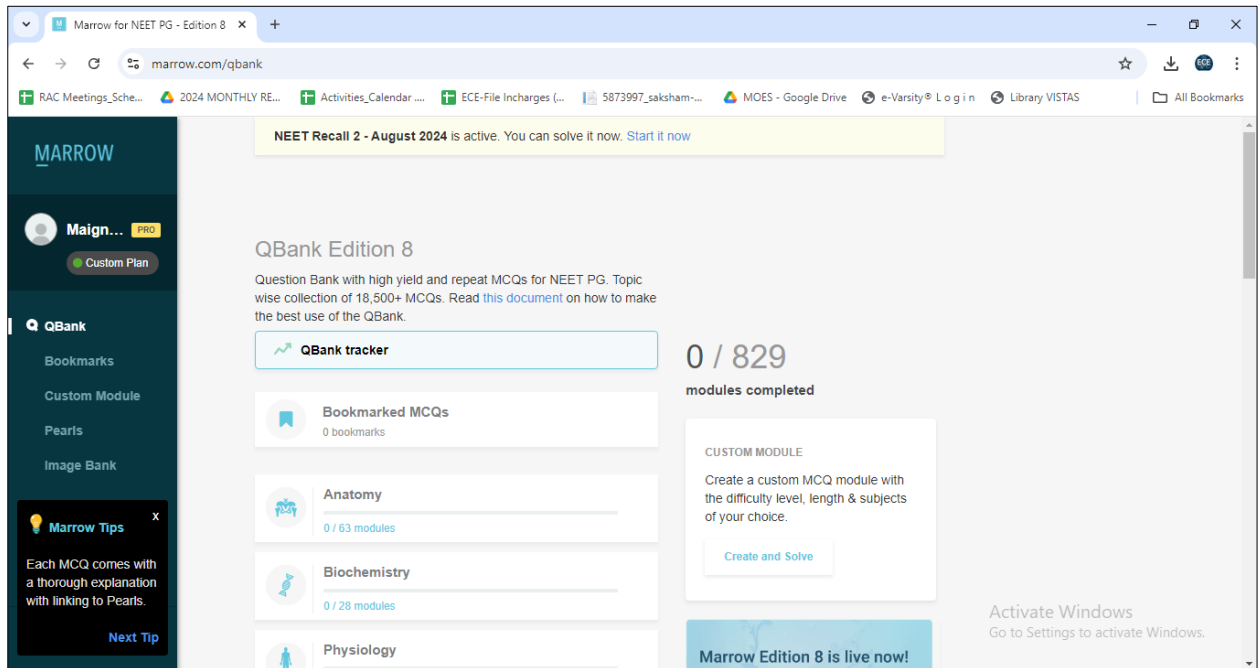


Figure 26: Screen shot of Marrow App

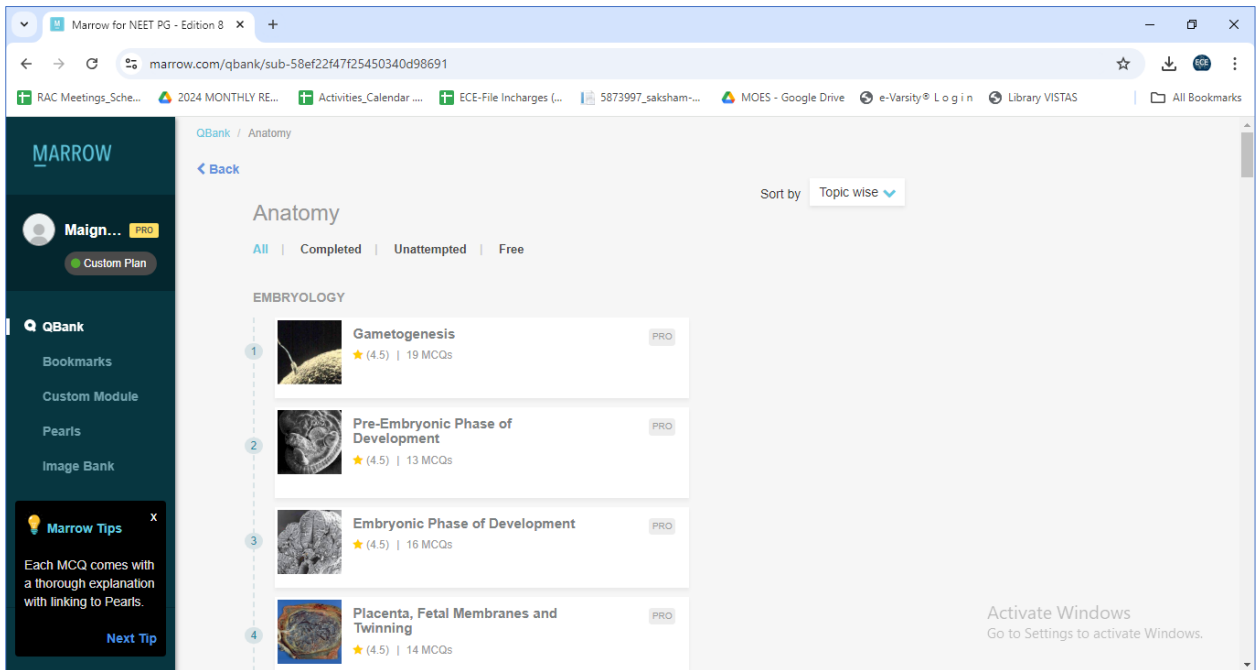


Figure 27: Screen shot of Topics covered in Marrow App

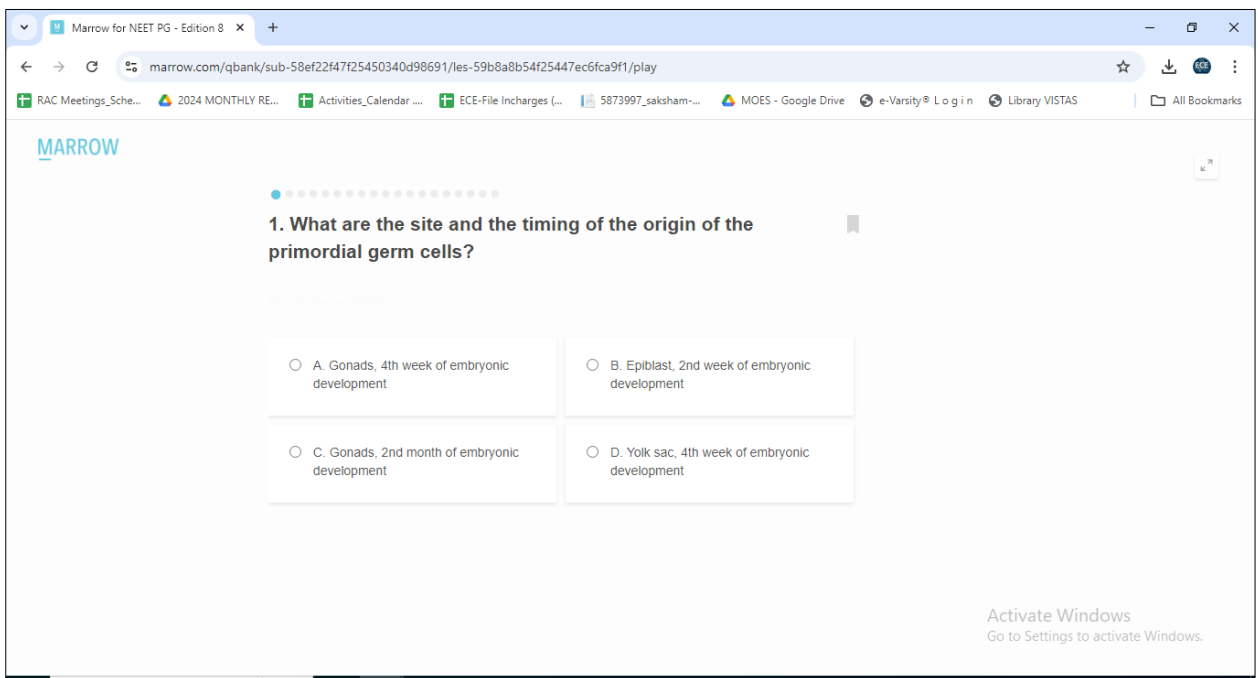


Figure 27: Screen shot of Questions and Answers in Marrow App

b. Virtual Laboratories

Virtual Laboratories at VISTAS during pandemic represent a pioneering approach to hands-on learning in the digital age, offering students immersive and interactive experiences that transcend the limitations of traditional laboratory settings. By incorporating Virtual and Online Laboratories into the curriculum, VISTAS empowers students to engage in meaningful scientific inquiry and experimentation, preparing them for success in their future careers and endeavours

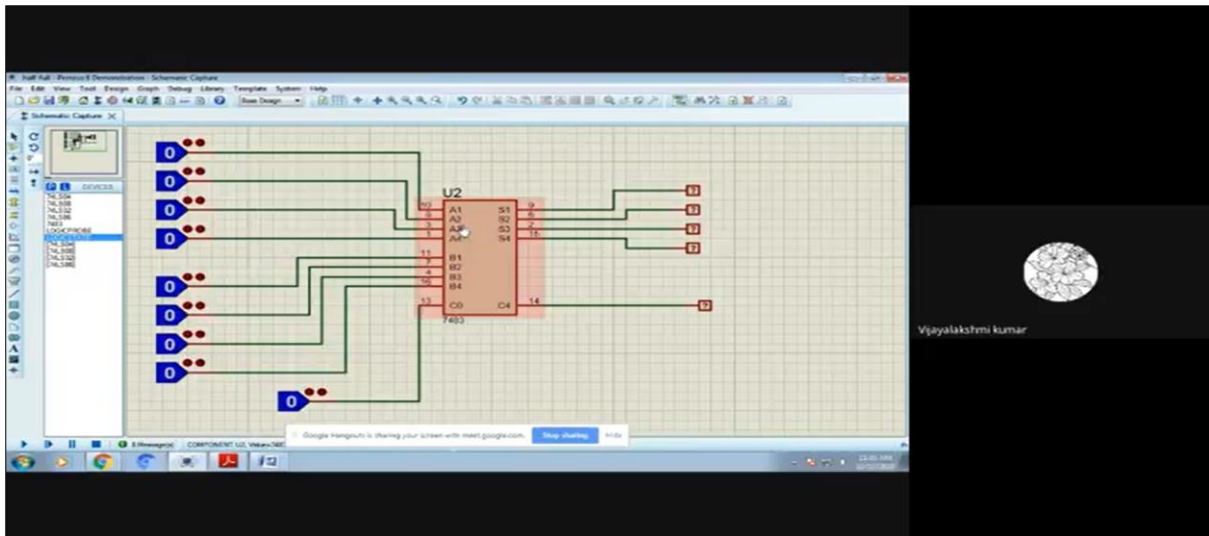


Figure 28: Online Lab on Digital Circuits

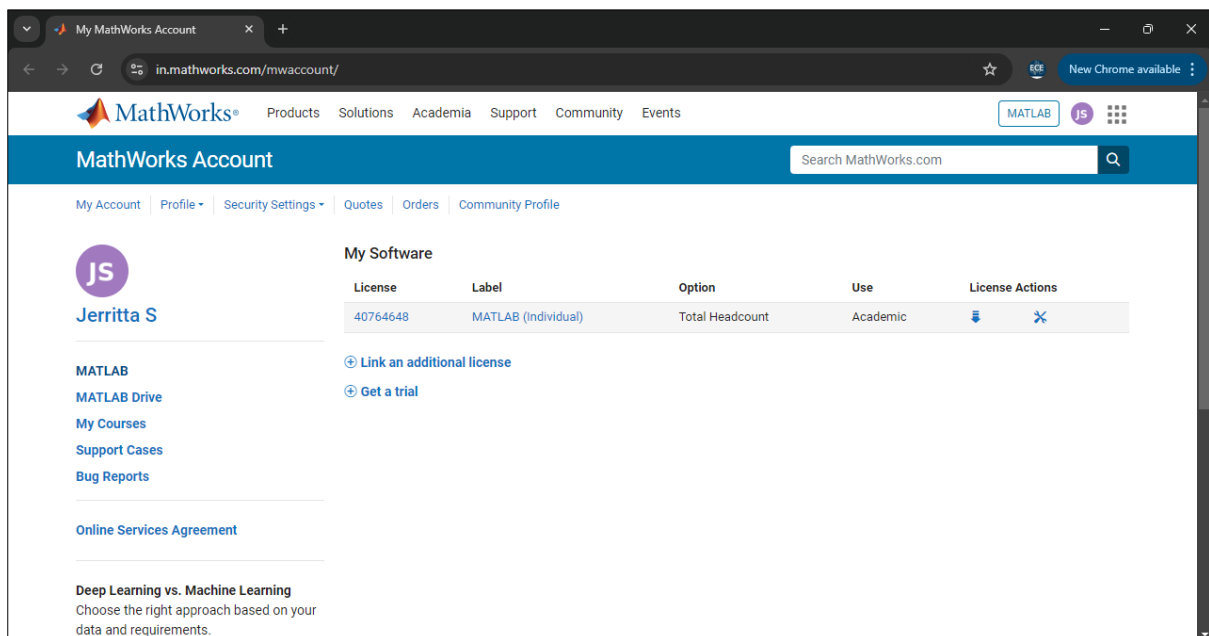


Figure 30: MATLAB - Total Head Count License at VISTAS

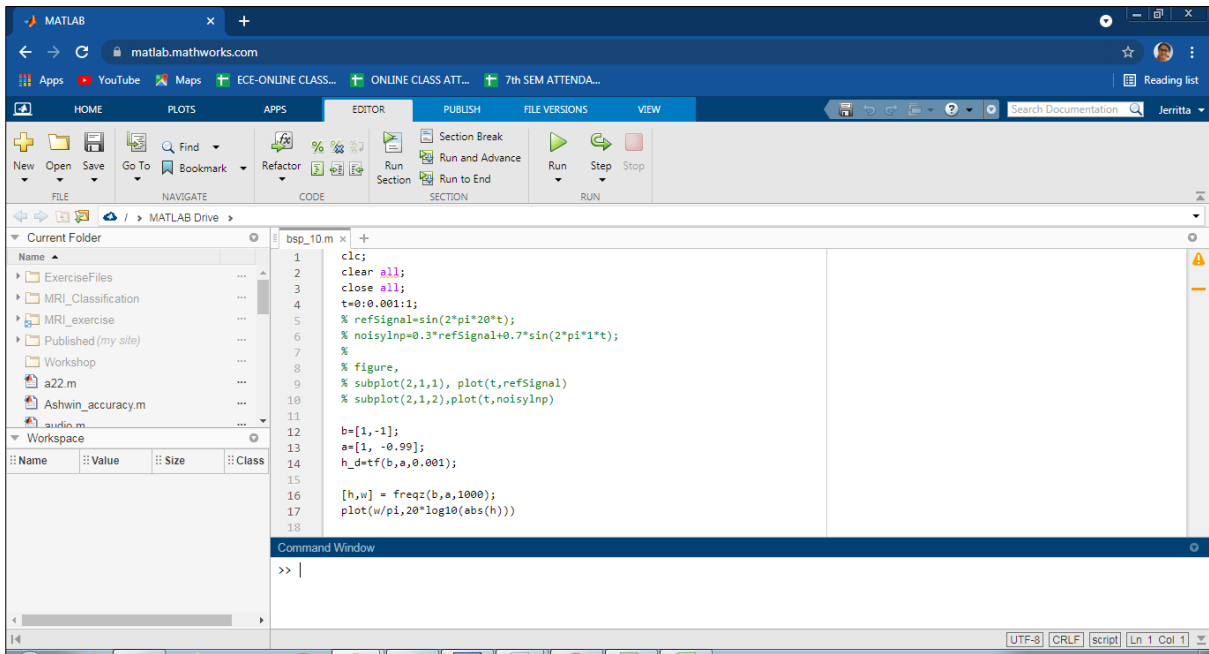


Figure 29: MATLAB Online

c. Other Tools

Faculty at VISTAS use various online tools such as Kahoot, Google Forms etc., for teaching learning activities. Some of the tools are illustrated below

Category	Percentage	Count
Correct	73.3%	11
Wrong	26.7%	4
Skipped	0%	0

Figure 302: Screen shot of online quiz using QR Codes



Figure 33: Screen shot of Quiz using Kahoot in School of Pharmaceutical Sciences



Figure 34: Quiz using ICT in School of Pharmaceutical Sciences



Figure 315: Digital flashcards

Stages of Cancer

Metastasis to other organs
Cancerous lymph nodes
Cancer invades lymph nodes

What causes cancer?

- Cancer arises from the **mutation** (a **mutagen** is a physical or chemical agent that changes the genetic material) of a normal gene.
- A factor which brings about a mutation is called a **mutagen**.
- It is thought that several mutations need to occur to give rise to cancer
- Mutated genes that cause cancer are called **oncogenes**.

Figure 326: Flipbooks

Plagiarism checking tools

VISTAS provides access to online tools such as Turnitin, Drillbit, URKUND etc., to help faculty members, research scholars and students identify instances of plagiarism by comparing their work against a vast database of academic papers, online content, and other sources. These tools provide detailed reports, highlighting similarities and offering recommendations for proper citation.

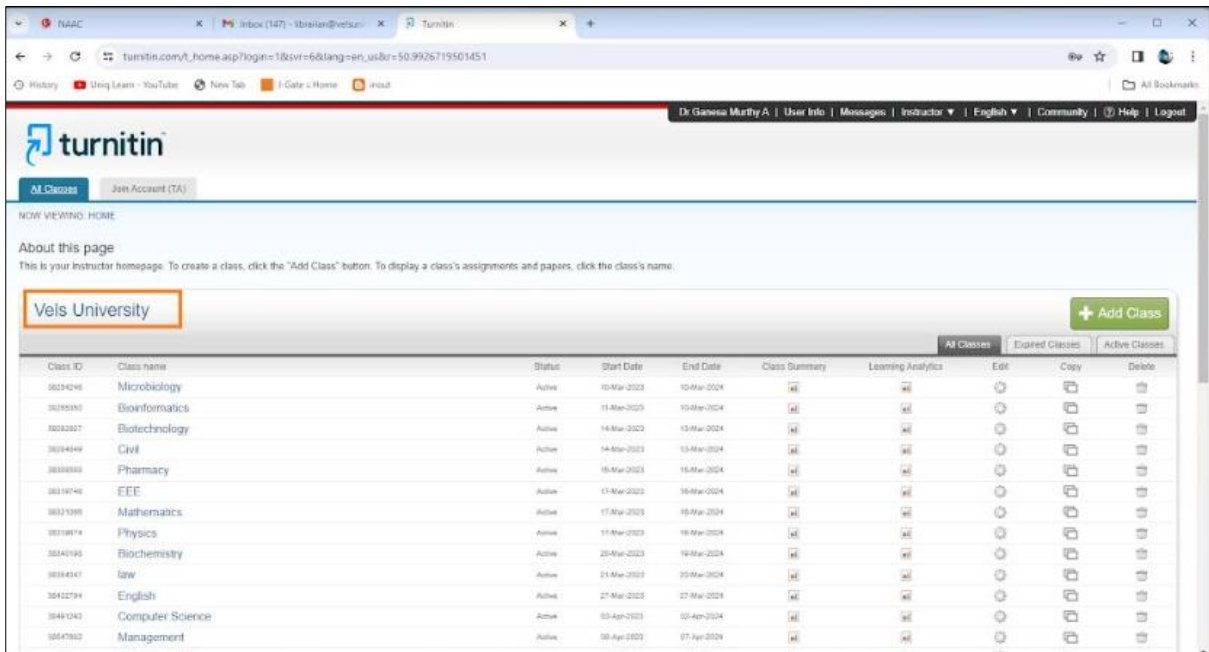


Figure 37: Turnitin

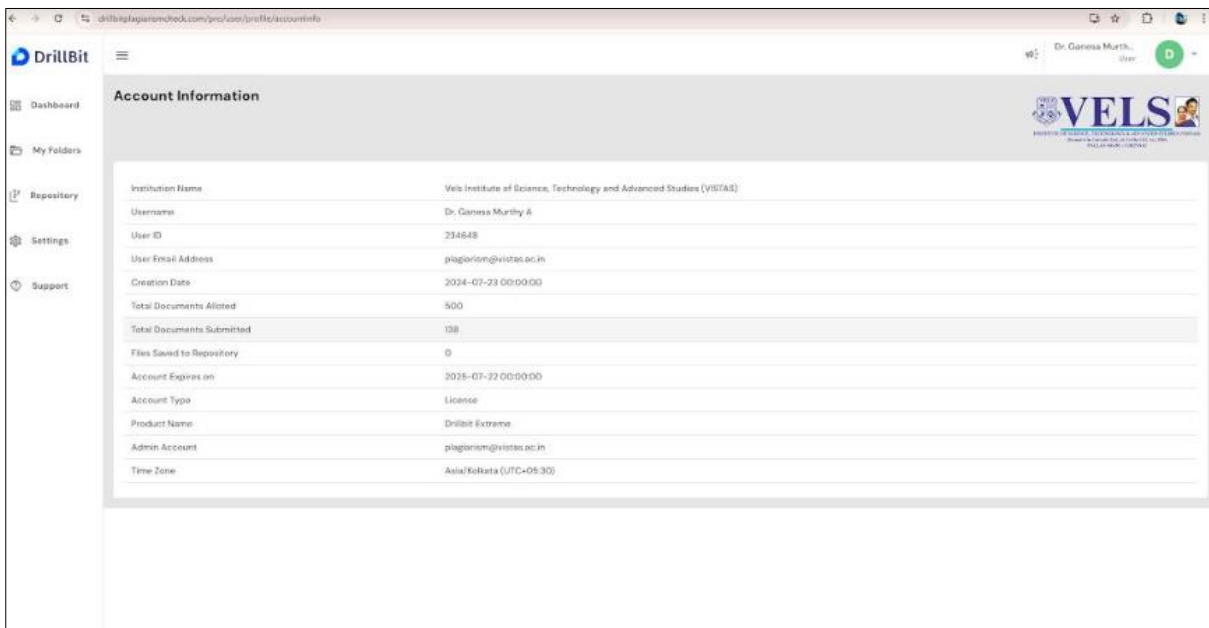


Figure 3833: DRILL BIT

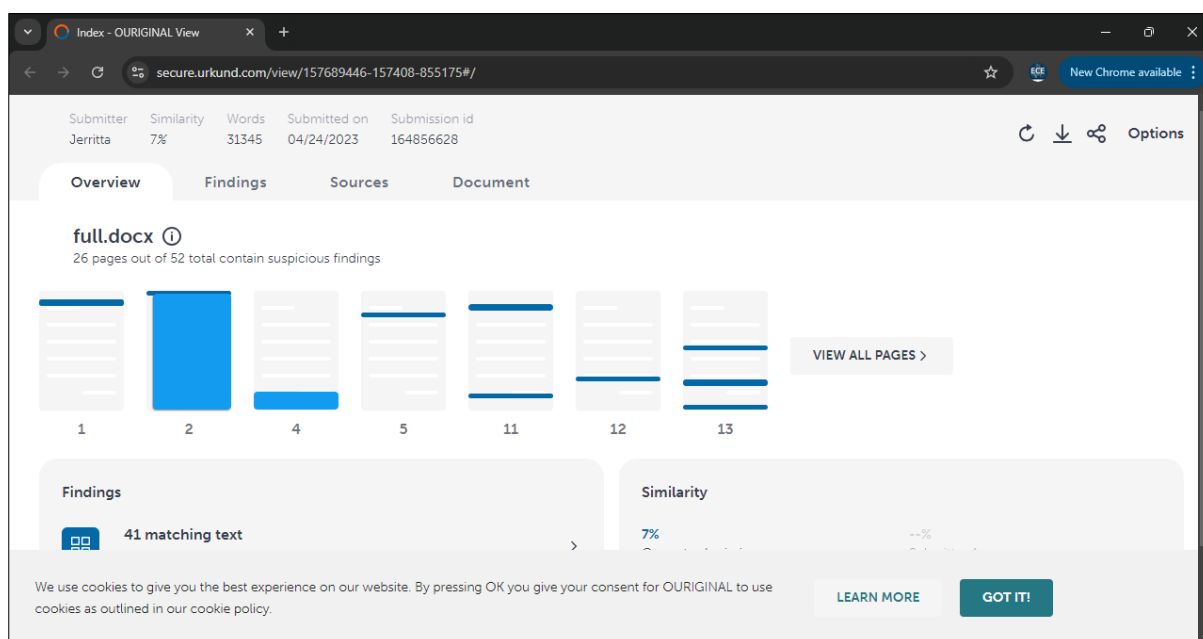


Figure 39: URKUND

5. E-RESOURCES DEVELOPED AND USED BY FACULTY

The faculty members develop e-contents that are available in the Institutional Website and are readily available for students to learn at their own pace and time. A sample set of contents developed by School of Pharmaceutical Studies is listed below,

Table 2: E-Content developed by Faculty

Name of the faculty	Department	Topic
D.Shyam Sundar	Pharmacognosy	Introduction, History, Development and Scope of Pharmacognosy
		Introduction to Glycosides and its classification
		Practical Demonstration of Soxhlet Extraction(Hot continuous Extraction)
Dr.P.Balaji	Pharmacology	Drugs acting on CHF (Cardiac Glycosides)
		Haemodynamics and Electrophysiology
		Drugs acting on Haemopoietic System (Anticoagulants)
		Drugs acting on Haemopoietic System (Fibrinolytics)
Dr.PG.Mahesh	Pharmaceutics	Drugs acting on Haemopoietic System (Antiplatelet drugs)
		Aerosols
		Capsules
		Parenteral Products
		Tablets
		Preformulation studies

Mrs.M.Archana	Pharmaceutical Chemistry and Analysis	Impurity Profiling
		Understanding HPLC
		Handling, Storage , Precautions for Radip Pharmaceuticals
		Volumetric Analysis
		Limit Tests
		Gravimetry
		Errors
		Green Solvents In analytical Chemistry
		Use of AI and automation in Healthcare
		HPLC
		Impurity Profiling and degradation characterization
		Chromatography
Mrs.Afroz Patan	Pharmaceutical Chemistry and Analysis	Cycloalkanes
		Comparative study of Synthetic resveratrol and resveratrol from grape skin by invitro and insilico studies
		Resolution Of Recemic Mixture
		Limit test video Lecture
		HPLC video ppt
		IUPAC Nomenclature
		Saytzeff's rule
Mrs.P.Indhumathy	Pharmaceutical Chemistry and Analysis	Nucleophilic substitution reaction
		Nucleophilic addition reaction
		Isomerism
		Elimination reaction
		Carboxylic acids
		Limit test video Lecture
		Antidiabetic agents
Dr.R.Gandhimathi	Pharmaceutical Chemistry and Analysis	H1 antagonist
		sulphonamides
		oral hypoglycemic agents
		antibiotics
Mrs.Monisha. J	Pharmaceutics	Introduction to Microbiology
		mixing of drugs

		drying of drugs
		Buccal drug delivery system
		gastro retentive drug delivery system
		Drug and cosmetic act 1940
		drug approval process in India
		Historical overview of Drug regulatory authority
		Regulatory authority in India
		Study of different schedule of Drugs
		Preformulation studies
		ophthalmic formulations
Dr.M.Sumithra	Pharmaceutical Chemistry and Analysis	Principle involved in UV visible spectroscopy
		Terms related to UV Visible spectrophotometry
		Flame Photometry
		Adsorbent and App of Adsorbent in chromatography
		Flame Photometer
		CHROMATOGRAPHY CONCEPT
		Column Chromatography video ppt
		E content development
Mr. T. Velmurugan	Pharmaceutics	Multiple Emulsion
		Microemulsion
		Stability of Emulsion
		Course Dispersion
Dr.D.Akiladevi	Pharmaceutics	Preparation of Terpene Hydrate Linctus
		Role of community Pharmacist in post covid 19 sequele
		Capsules - Part I
		Capsules - Part II
		Preparation of liniment
		Herbal Cosmetics - 1
Dr.K.Manjuladevi	Pharmacology	Pharmacology of Adrenal Hormones
		Screening methods for antiparkinsonism agents
		Organophosphorus poisoning and it's treatment
		Screening methods of analgesic activity
		Oral hypoglycemic agents
M. Immanuel Jebastine	Pharmacy Practice	Drug Development
Dr M K Sundar Sri	Pharmacy Practice	Clinical Project
Dr M Dheenadhayalan	Pharmacy Practice	AdHOC data source for Pharmacoepidemiological Studies
Dr.P.Maheshwari	Pharmacy Practice	Gout
		Tuberculosis

		Drug information services
		Meningitis
		Acute renal failure
B. Bhargavi	Pharmaceutics	Storage Conditions and Stability of Official Vaccines
Dr.S.Umadevi	Pharmaceutics	Total Quality Management
		Quality by Design
		ICH Guidelines
		Size Reduction Part 2
		Evaporation
Dr. A. Vijayalakshmi	Pharmacognosy	Hot continuous extraction
		Macroscopy and Microscopy of Clove Bud
		Macroscopy and Microscopy of Ephedra stem
		Galenicals
		Enzymes
		Length and Width of Phloem fibers
		Macroscopy and Microscopy of Fennel fruit
		Macroscopy and Microscopy of Senna Leaf
		Plant Fibers
		Extraction of volatile oil using Clevenger apparatus
		Alkaloid containing crude drugs
		Volatile oil containing crude drugs
		Soxhlet Extraction
Dr.S.Mangayarkarasi	Computer Science	Computer Communications and Networks
		Computer Communications and Networks
		Computer Communications and Networks
		Computer Communications and Networks
		Computer Communications and Networks
Ms.R.Padma	Computer Science	Computer Communications and Networks
		Computer Communications and Networks
		Computer Communications and Networks
		Computer Communications and Networks
		Computer Communications and Networks
Dr.G. Thailambal	Computer Science	Operating System
		Operating System
		Operating System
		Operating System
		Operating System
Dr.A.Akila	Computer Science	Data Mining & Data Warehousing - Block 5 Clustering

		Data Mining & Data Warehousing- Block 4 Classification and Prediction
		Machine Learning using Orange
Dr S Ajith Arul Daniel	Mechanical Engineering	Continuity Equation for Compressible flow
		Velocity Equation
		Eulers equation
		Projection of Planes
		Projection of Planes cylinder
		Projection of Solids String Problem
		Projection of Solids Pentagon Problem
		Projection of Points
		Projection of Soids Generator Problems
		Overview of Engineering Graphics
Dr. R. Muraliraja	Mechanical Engineering	Mendeley Software
Dr.S.VarunRaj	Mechanical Engineering	Basic of Class
		Calculation of CGPA & GPA
		How to Check Old Result?
		Answering the Problem by Scan the Question
		Guide to Engineering Counseling
		Online TNEA Guideline
		Vels University Admission
		Scope in Mechanical Engineering
		Scope in ECE
		Scope in CSE
		Accrediation Details
		Education Loans Guideline
		History of Education Minister
		Who is Entrepreneur?
		Interview Tips
		Easy to Study Tips
		How to Measure Land
Dr.S.Chandrachud	Economics	Theory of Firm
		Pricing Under Product Life Cycle
		Monopoly Market
		Perfect Competition
		Economies OF Scale
		Definition and Nature
		Difference between M E and T E
		Scope of Managerial Economics
		Fundamental of M E

	Demand analysis introduction
	Law of demand
	Exceptions to law of demand
	Price Elasticity of demand
	Income, cross and Advertisement Elasticity
	Demand forecasting
	Demand forecasting and casestudy
	Methods of demand forecasting
	Cost output relation in shortrun
	Cost output relation in long run PT
	Factors of production
	Law of variable proportion
	Discriminating monopoly and Kinked demand curve
	Break even Analysis
	Pricing methods
	Factor pricing
	Law of variable proportion
	Demand Analysis - Introduction
	Types of Elasticity of demand
	Revealed preference theory - Introduction
	Economic Approaches to utility
	Nature of Managerial Economics
	Risk and Uncertainty
	Cardinal and ordinal utility
	Demand analysis
	Exception to law of demand
	Scope of managerial Economics
	General Foundation of Managerial Economics
	Theory of consumer behaviou
	Fundamental concept of managerial economics
	Definition and Differnce
	Break Even Point
	Theory of firm
	Breakeven Analysis
	Bouma;'s sales maximisation model
	Profit maximisation model
	Profit maximisation
	Monopoly comepetition
	Profit position - perfect market
	Product Life cylce
	Theory of firm

	Economies of Scale
	Market Structure
	Classification of market
	Pricing under Product life cycle
	Simple monopoly
	Pricing strategies
	Cost output relationship in long run
	Pricing Methods
	Price and output determination
	Law of variable proportion
	Product Life cycle Pricing
	Market Structure
	Discrimination monopoly and kinked demand curve
	Input output decisions
	Impact of Economies of Scale
	Monopoly competition
	Factors of Production
	Cost output relationship in long run
	Perfect Competition
	Cost output relationship in short run
	Methods of least squares
	Features of perfect competition and shutdown point
	Methods of demand forecasting
	Wassily leontiff input output model
	Types of Market
	Production Analysis
	Income, Cross and Advertisement Elasticity
	Cost output relationship
	Role of Monetary policy
	Short run cost output relationship
	Inflation and its impact
	Economies of Scale
	Types of Elasticity of demand
	Law of variable proportion
	Law of demand
	Price Elasticity
	Demand Analysis
	Leontief input output model
	Fundamental concepts of ME Case study
	Consumer healthcare

	Production function
	Scope of ME
	Difference between M E and T E
	Methods of least squares
	Demand forecasting
	Okun's Law
	Unemployment and its impact
	Types of Income Elasticity
	Fiscal policy
	Multiplier effect
	Price Elasticity of demand
	Health Insurance
	Demand for healthcare services
	Law of Demand
	Definition Nature and Scope of ME
	Demand Analysis
	Managerial Economics
	Risk and Uncertainty
	Measurement of National Income
	Nature of Managerial Economics
	Case study
	Fundamental of Managerial Economics
	Spatial distribution of health care
	Role of Managerial Economics
	Scope of Managerial Economics
	Elements of National income accounting
	Fundamental Concepts of Managerial Economics
	Definition of National income
	Definition and features of Managerial Economics
	spatial II
	Spatial distribution of health care
	Components of Health
	Introduction Managerial Economics
	Determinants of Health
	Circular flow of income
	Lifestyle status
	Disability Indicators
	Scope and importance of macro economics
	Morbidity indicators
	Mortality indicators

		Macroeconomic aggregates
		Performance of an Economy
		Macroeconomic aggregates
		Principles and Objectives of Health Economics
		Health Economics
		Postive and negative Externalities
		Role of Government in macroeconomics
		Role of Market in Macroeconomics
		Micro Vs Macro
		Micro and Macro economics introduction
		Economic Stability
		Economic Growth
		Productive efficiency and Economic efficiency
		Production possibility frontier
Dr. V. Bala Ruby	Economics	Price Elasticity of demand
		Cost
		Production Function
		Law of variable proportions
		Law of returns to scale
		Economies and Diseconomies of scale
		Labour
		Sweezy's Oligopoly competition
		Monopoly
		Monopolistic Competition
		Perfect Competition
		Types and Causes of Inflation
		Types of Banks
		Money Supply
		Monetary Policy
		Stock Market
		Health Insurance
		Types of Investment
		Insurance
		Inflationary Gap, Stagflation
		Measures of Business Cycle
		Types of Trade Cycle
		Credit Creation
		Qualities of Money and Gresham's Law
		Money Multiplier
		Banking
		Online Trading System
		Role of Money


		Classical Vs Cambridge Version
		Fisher's Quantity Theory
		Introduction of Money
Dr.S.Preetha	MBA	Business Ethics
		Resistance to change & Stress Management
		Organisational Change
		Organisational Development
		Management by Objectives
		Administrative Management - Evolution of Management
		Scientific Management - Evolution of Management
		Management Thinkers, Method of Case Analysis
		E Mail Writing & JAM
		Revising Messages & Proof Reading
		Writing Business Messages
		Pre writing for Business Writing
		Business Communication Activity - Worksheet
		Organising Presentation
		Effective Presentation Skills & Self Introduction by students
		JAM - Self Introduction by Students
		Communicating in teams
Dr. G. Rajini	MBA	Skills needed for different levels of managers, Roles of Bottom level managers and middle level managers
		Roles of Top-level managers
		Plans and Types of Plans
		Classification of Plans
		Importance and benefits of planning and Description of Objectives /Goals
		SHRM Frame work and Mind Mapping
		Policies and procedures
		Case Study
		Centralisation and Matrix approach of training
		Indian Case examples
		case study
		Emotional Intelligence
		Sigmund Freud theories as in other sources
		Personality Traits and types
		Quality of work life Work Environment and Work design

		Performance Management outcomes, Rewards and Recognition
		Employee Attrition and Retention
		Counselling and Guidance ,Employee Assistance Program
		Counselling and employee assistance program
		Cases on Cargill & Cartoon Network Strategies
		Group behaviour , Norms , Why people join groups ? Satisfaction ,Motivation ,Five stage model of Group development
		Scientific management and Human relation schools
		Instincts and drives for Performance based on Compensation and Appraisal
		Hypnosis and Hypnotherapy and Case discussion
		International HRM
		Talent Management
		Wage & Salary
Dr A Selvaraj	Mathematics	Business Mathematics
		Business Mathematics
		Business Mathematics
Mrs. T. Iswarya	Mathematics	Graphical Method Part -1
		Laplace with Integration
		Laplace 8M
		Laplace 2M
		Laplace 8M $\sin^2 t$
		Laplace with Inverse
		Machine Problem
		Machines
		Assignment Problem 15M
		Assignment problem
		Dominance and Graphical
		Dominance Property
		Game with Saddle Point
		Game without Saddle Point
		Graphical Method
		LCM
		MODI Method
		NWCR
		VAM
		Laurent's Series Expansion
		Dominance and Graphical

		ODE 2M
		Taylor's Series
Dr.K.Srinivasan	Mathematics	Business Statistics
		Business Statistics
		Business Statistics
		Business Statistics
		Business Statistics
		Business Statistics
		Business Statistics
		Business Statistics
		Numerical method notes
		Samplping notes
		correlation and regression notes
		Transportation Problem NWCR..
		Transportation Problem LCM
		Transportation Problem VAM
G Charles Rabinson	Mathematics	Business Statistics
		Fourier Transforms
		Fourier Transforms
		Statistics and Numerical Methods
		Complex Number
		Operations Research
Dr S.Santhi	Mathematics	Binomial Expansions
		Binomial Expansions
		Binomial Expansions
		Binomial Expansions
		Jacobian
		Maxima and Minima
		Lagranges Multipliers
Dr.M.Raji	Mathematics	Business Statistics
Dr.N.Shanmugasundaram	EEE	Power system operation and control
		Power system operation and control
Dr.N.Janaki	EEE	MEMS OF BIOMEDICAL APPLICATIONS
Dr.T.R.Premila	EEE	INTRODUCTION TO CONTROL SYSTEM
Dr T Jaya	ECE	Optical Communication - Ray Theory Transmission
		Wireless Communication - Cellular Architecture
		Ray Theory Transmission - Properties - Reflection, Refraction, Refractive Index (Part 1)
		Ray Theory Transmission - Numerical Aperture (NA)

		Ray Theory Transmission - Properties - Total Internal Reflection TIR, Acceptance Angle (Part 3)
		Ray Theory Transmission - Properties - Snell's Law, Critical Angle (Part 2)
Dr.C.Sharanya	ECE	<u>Quine McCluskey Method of Simplification</u>
		Simplification using Boolean Laws
		K map with Don't Care Condition
		K - Map Problems
		Full Subtractor
		Half Subtractor
		Half Adder
		Full adder
		Plotting and Grouping in K map
		Introduction to logic gates
		Introduction to K-Map
Ms.Thamizhvani TR	Biomedical Engineering	Biomedical Instrumentation
Dr.G.N.Nirmala	Bioengineering	Selection
Dr.S.S.Meenambiga	Bioengineering	Solid state fermentation
		Substrate utilization and product formation in bioreactor
Ms.K.Rajakumari	Bioengineering	Immunology-Immunofluorescence
		Immunology-Enzyme Linked Immunosorbent Assay
		Immunology-Western Blotting-Protein Hybridization

In addition, faculty also develop contents for other agencies. E Content for the course, Knowledge and Curriculum, that includes twenty five modules in four Quadrants (E-text, E-tutorial, Self-Assessment and Learn more) developed by Dr. Girija from the School of Education, is published in Vidya Mitra – A National Mission on Education (ICT Enabled) MHRD (<https://vidyavitra.inflibnet.ac.in/>).


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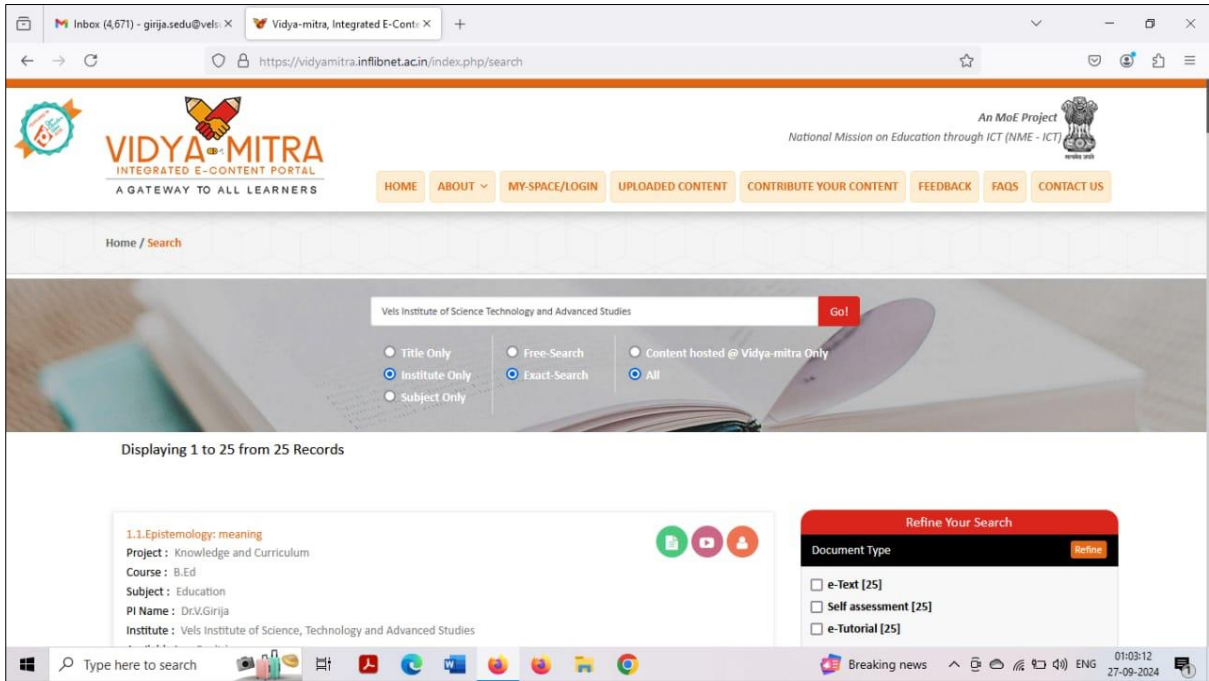


Figure 34: Knowledge and Curriculum developed by VISTAS in Vidya-Mitra Portal

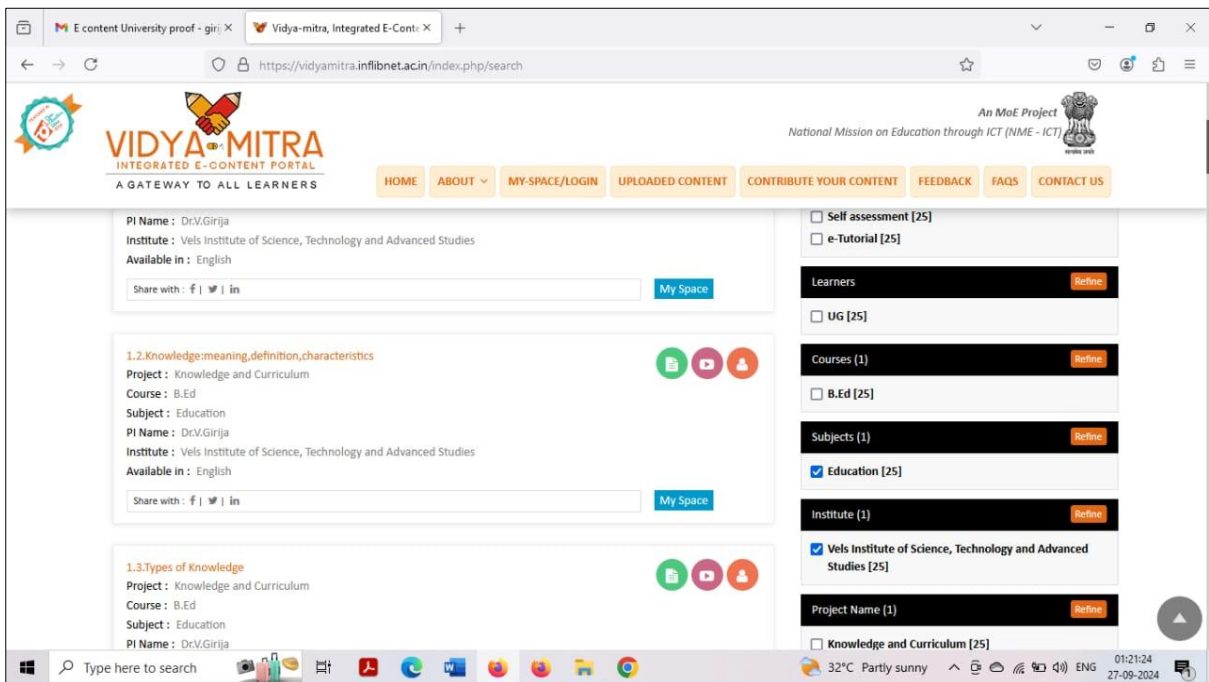


Figure 35: Modules of the Course on Knowledge on Curriculum


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Faculty members at VISTAS regularly utilize digital materials and resources, integrating them into their teaching to enrich the learning experience.

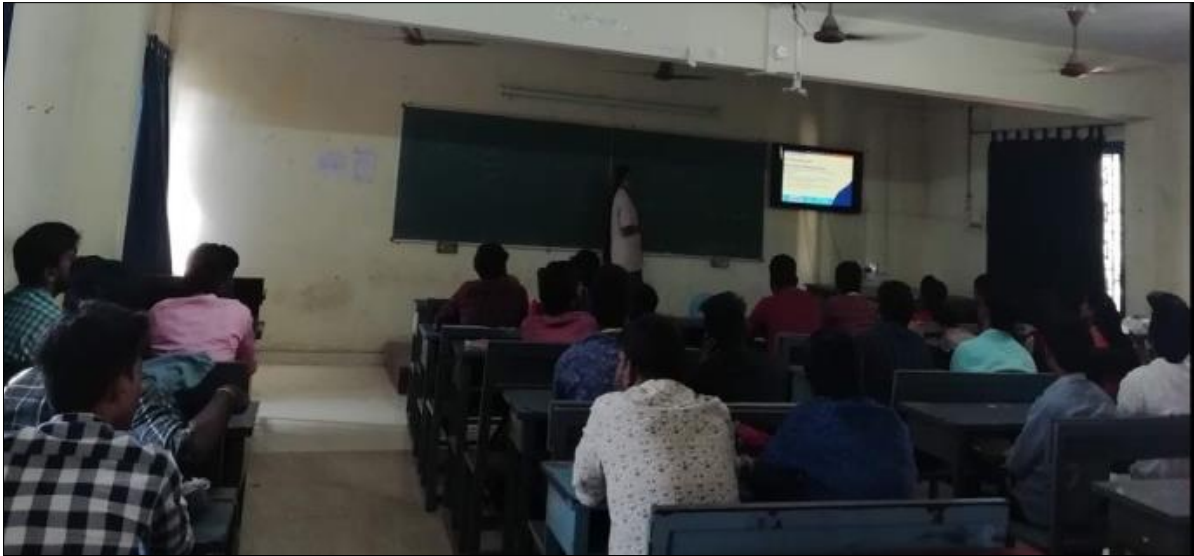


Figure 36: Blended Learning (VOC Block, VISTAS)

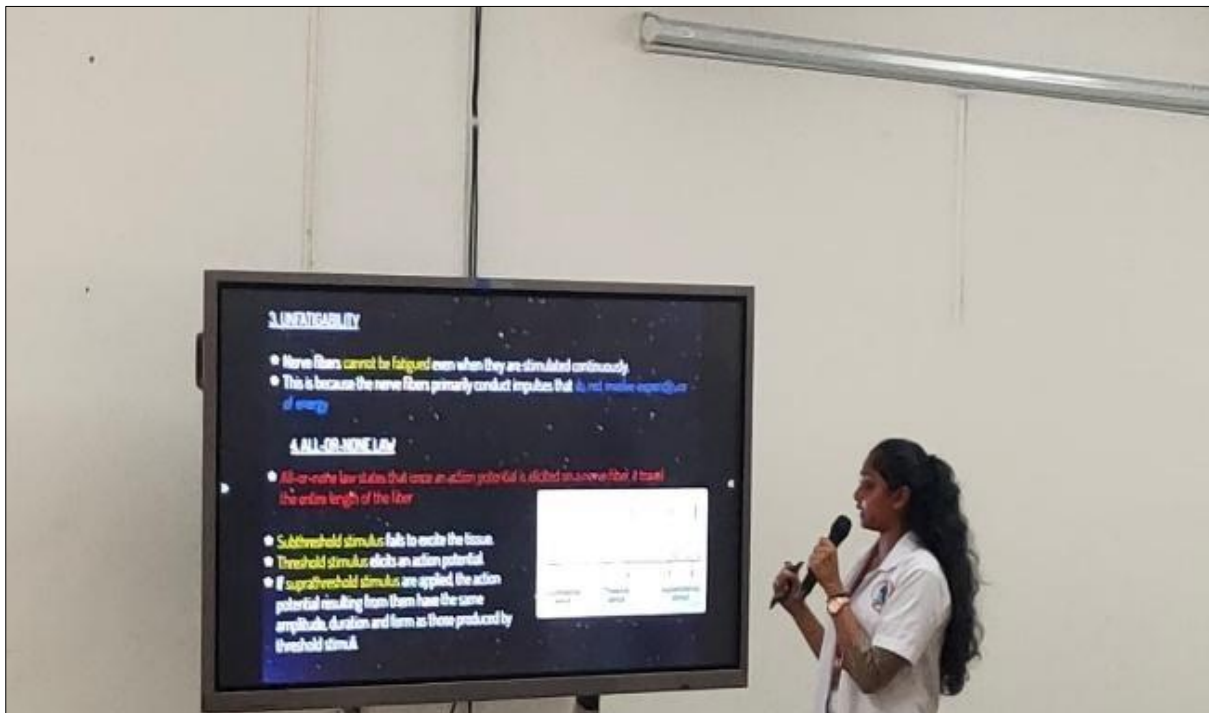


Figure 37: Seminars (VMCH)


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Figure 38: Flipped Classrooms (VMCH)

A sample subset of e-resources used by faculty, as listed in the course plan is given below for reference.

Table 3: Sample ICT tools used by Faculty

Name of Faculty	Name of the Course	ICT Tools used for Teaching and Learning
Dr.V. Jayashree	Human Anatomy and Physiology	Power Points, Audio Visual Clips (NPTEL/Youtube Videos etc.), Google Classroom, Website Links, Online Quiz, Charts & Innovative Teaching Learning - Mingle, Share, Pair
Dr. Jayalakshmi. S	Fundamentals of Pharmaceutical Chemistry	Power Points, Audio Visual Clips (NPTEL/Youtube Videos etc.), Website Links
Dr. S. Umadevi	Quality Assurance	Power Points, Audio Visual Clips (NPTEL/Youtube Videos etc.), Online Quiz
Dr. S. Umadevi	Pharmaceutical Engineering	Power Points, Audio Visual Clips (NPTEL/Youtube Videos etc.), Flip Books, Website Links
Dr.Varadharaju.B	Physiology	Power Points, Audio Visual Clips (NPTEL/Youtube Videos etc.), Google Classroom
Ms. Sowmiya S M	Design and Analysis of Algorithms	Audio Visual Clips (NPTEL/YouTube Videos etc.), Working Model
Thamizhvani TR	Virtual Instrumentation In Medicine	Power Points, Google Classroom

Thamizhvani TR	Basics of Python and MATLAB Software	Power Points, Google Classroom, Online Quiz
Ms. V. Akshaya	Food Science	Power Points, Audio Visual Clips (NPTEL/Youtube Videos etc.), Online Quiz
Ms. V. Akshaya	Nutrition	Power Points, Audio Visual Clips (NPTEL/Youtube Videos etc.), Website Links

6. ONLINE VIDEO CONFERENCING PLATFORMS

Ever since the pandemic situation created by spread of Covid-19 virus, VISTAS has embraced with open arms the concept of online platform-based learning through online platforms like Google meet, Zoom, and WebEx.

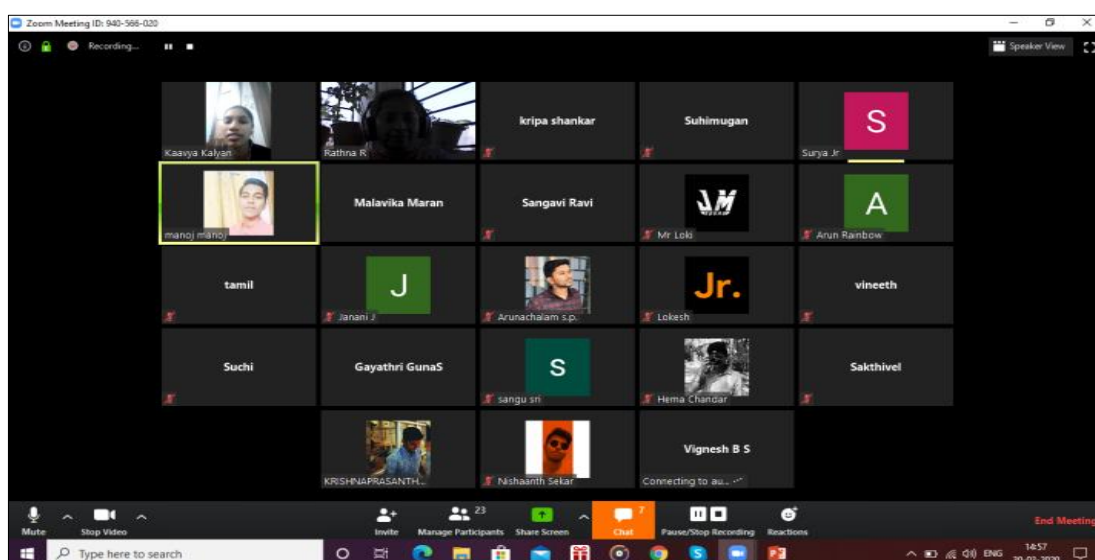



Figure 39: Classes on Google Meet


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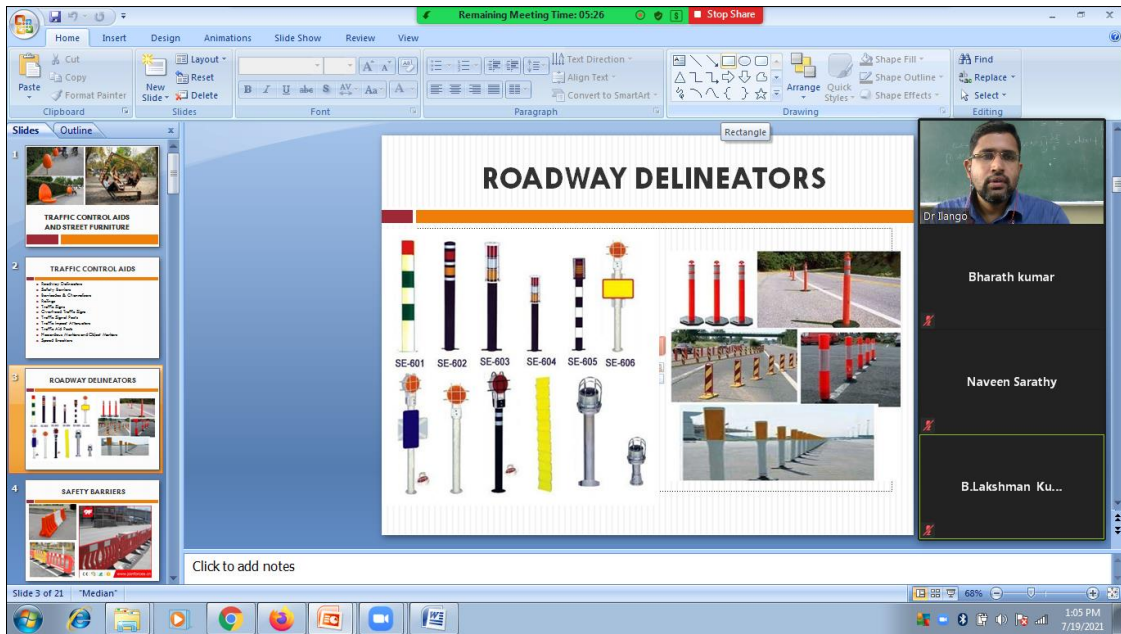


Figure 40: Online Classes on Zoom Platform by Dr.T.Ilango,Professor/School of Engineering and Technology

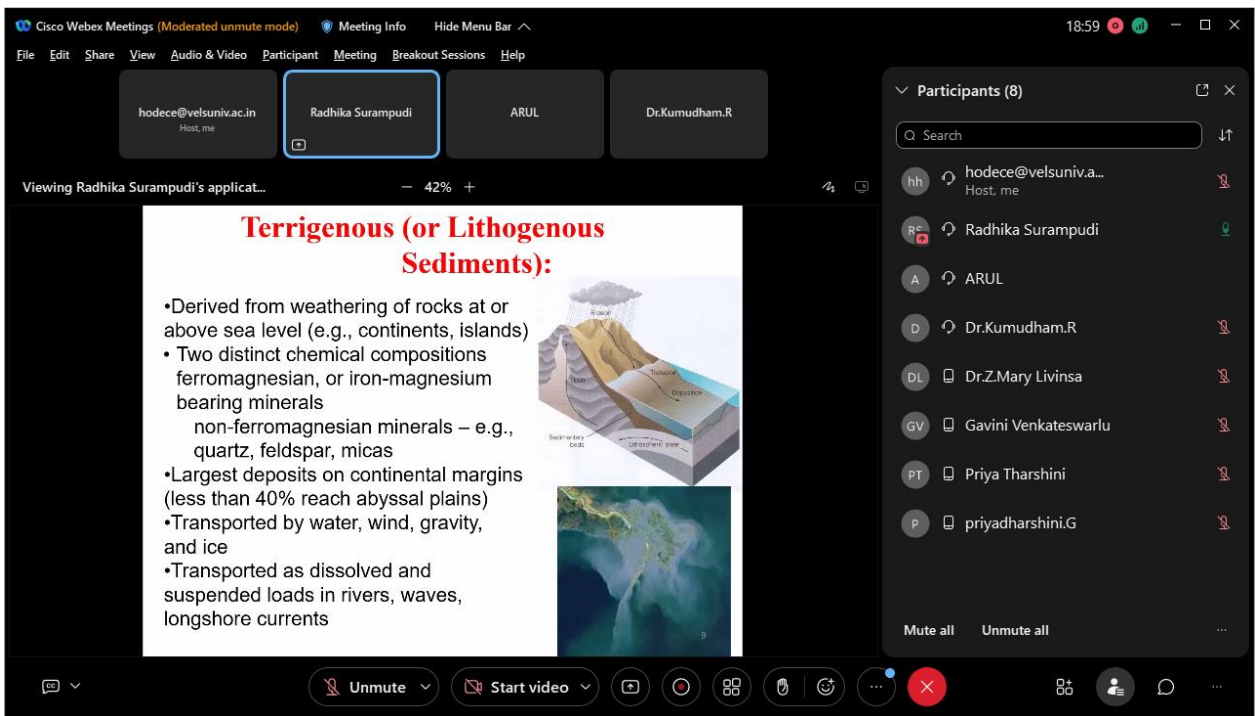


Figure 41: Online Session on WebEx Platform Dr.S.Jeritta, Professor/School of Engineering and Technology


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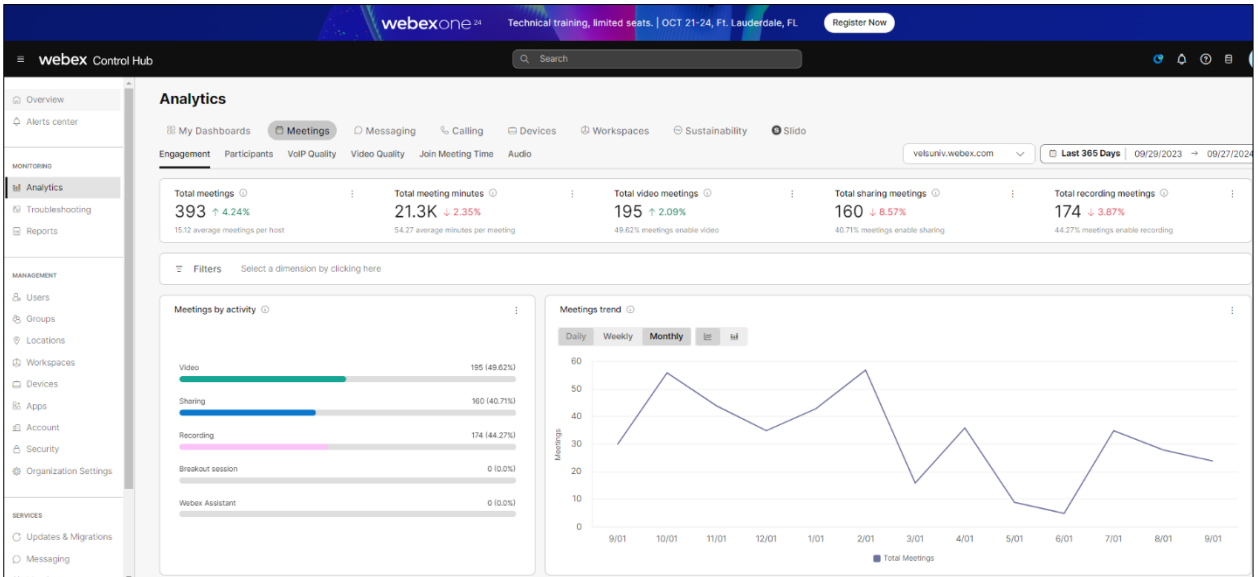


Figure 42: WebEx Statistics

Users


Users External users External administrators

Search by name or email or Filter or Select a Location 70 users

First / Last name	Email	Status	Administrator roles
accounts accounts	accounts@velsuniv.ac.in	Verified	
Anandan R	anandan.se@velsuniv.ac.in	Active	
ARUN S 5182	arun.se@velsuniv.ac.in	Active	
Associate Director	assodir.digital@velsuniv.ac.in	Active	
chairmanexecutive chairmanexecutive	chairmanexecutive@velsuniv.ac.in	Not verified	
Chandrachud Sivarama Krishnan	chud.sms@velsuniv.ac.in	Active	
Chandran M	hodcommerce.ca@velsuniv.ac.in	Active	
coe coe	coe@velsuniv.ac.in	Active	
dean academicresearch	dean.academicresearch@velsuniv.ac.in	Active	
Dean Law	dean.law@velsuniv.ac.in	Active	
dean sms	dean.sms@velsuniv.ac.in	Active	
director ia	director.ia@velsuniv.ac.in	Active	
director music	director.music@velsuniv.ac.in	Verified	

Activate Windows
Go to Settings to activate Windows.

Figure 43: WebEx Admin Portal indicating Users


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7. ICT FACILITIES

The teaching-learning process is enhanced and simplified through the use of ICT (information and communication technology) enabled tools by all the faculty members. All the classrooms are Wi-Fi/LAN enabled and equipped with smart boards, LCD Projectors etc that strengthens the teaching and learning. Few Classrooms are also furnished with Lecture Capturing Systems that aids in recording video lectures.

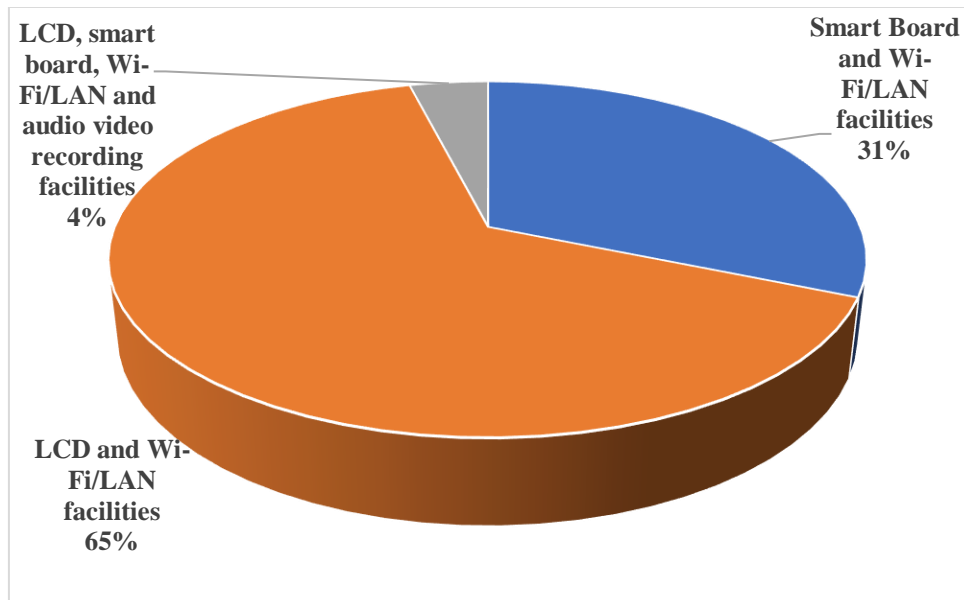


Figure 44: Statistics of Classrooms



Figure 45: Classrooms with ICT facilities at VMCH

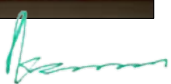

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Figure 46: Classrooms with ICT facilities at VMCH (AV Room)



Figure 47: Classrooms with ICT facilities (Dr.M.G.R Block ENB206)


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Figure 48: Classrooms with ICT facilities – VISTAS Library

The Audio-Visual Center and Lecture Capturing Device facilities aid in the development of e-content.



Figure 49: Audio Visual Center - VISTAS


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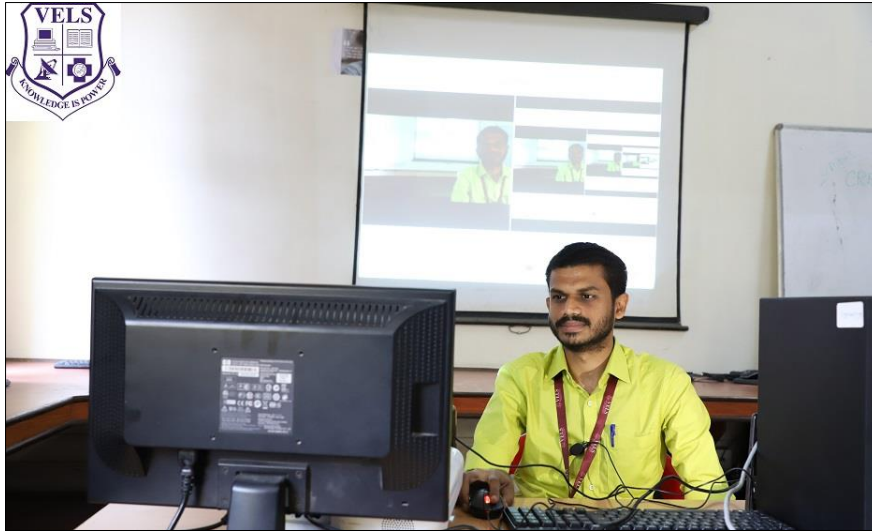


Figure 50: Lecture Capturing System- VISTAS



Figure 51: Video Editing Room - VISTAS


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