

REPORT ON WORKSHOP ON VIRTUAL LABORATORIES ORGANIZED BY RAMSADAY COLLEGE IN COLLABORATION WITH AMRITA VISHWA VIDYAPEETHAM

Date: 31-01-2022

Virtual Laboratories is a noble initiative which was taken by the Ministry of Education under the National Mission on Education through ICT (NME-ICT). The scheme was targeted to achieve a number of objectives like providing remote access to various simulation-based laboratories in different science & engineering disciplines; providing a knowledge of basic & advanced topics through remote experimentation and to give a framework of a complete Learning Management System which will equip both students and teachers with the various tools necessary for a complete learning process like different web-resources, video lectures, animated demonstrations and self-evaluation. This Virtual Laboratory project is a collaborative undertaking of a number of prestigious Institutions like Amrita University, IIT Delhi, Kanpur, Bombay etc.

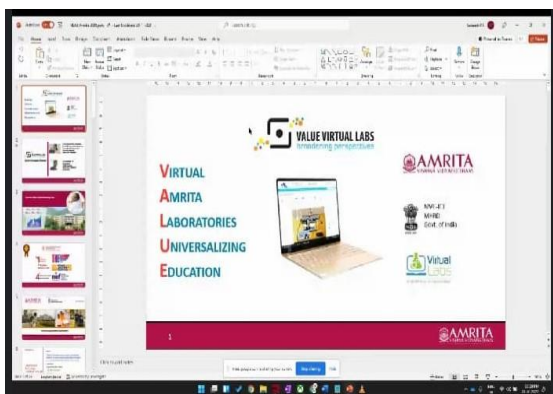
Amrita VishwaVidyapeetham or Amrita University under the noble guidance of Sri Mata AmritanandamayiDevi, is one of the youngest and fastest growing Universities in India.



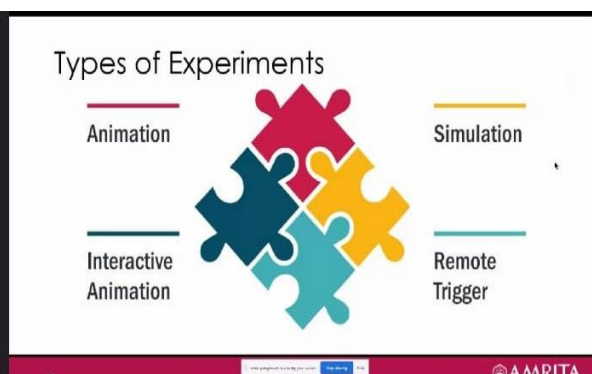
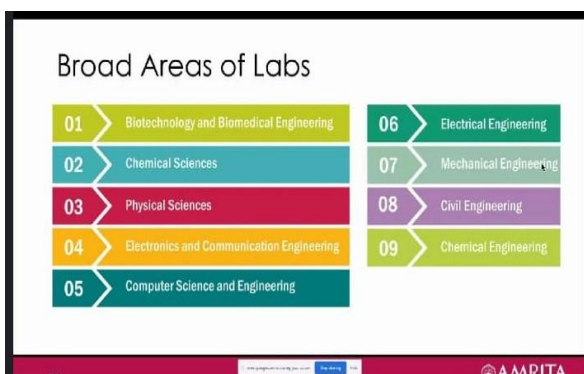
Ramsaday College located in Amta in the district of Howrah, West Bengal has been accredited as a Nodal Centre, Amrita Virtual Labs. In accordance with the same, a one-day workshop was organised by Ramsaday College on 25.01.2022., Tuesday from 2.00 P.M.-4.00 P.M.; where Dr. Nababrata Ghoshal, Associate Professor and Dr.SudipaUpadhaya, Assistant Professor;from Department of Physics are the Nodal coordinators.

At the onset, Respected Principal of Ramsaday College, Dr. Deb Kumar Mukherjee motivated the cause. The workshop was guided by Prof. SaneeshPazhamadathil Francis from Amrita University. He is the project manager and the Technical Lead of Physical Sciences' Virtual Labs, Amrita Vishwa Vidyapeetham. Also, he is the supervisor of virtual lab deployment classes and a specialist in quality control of physical sciences' simulations.

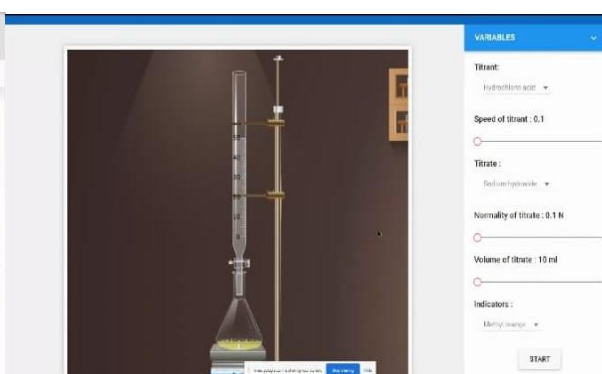
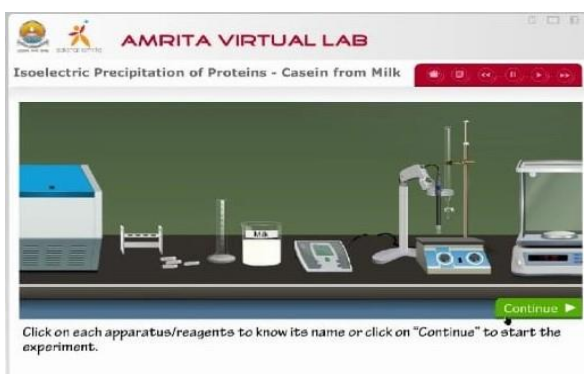
He started the workshop pointing out the significance of Amrita University's VALUE Virtual Labs, Virtual Amrita Laboratories Universalizing Education.



He then motivated the objectives of Technology Enabling Centre at Amrita University, highlighting how it will empower the scientific as well as business community and escalate the innovation potential of not only the state but also the country as a whole. He spoke about the different workshops and training programmes involved herewith.



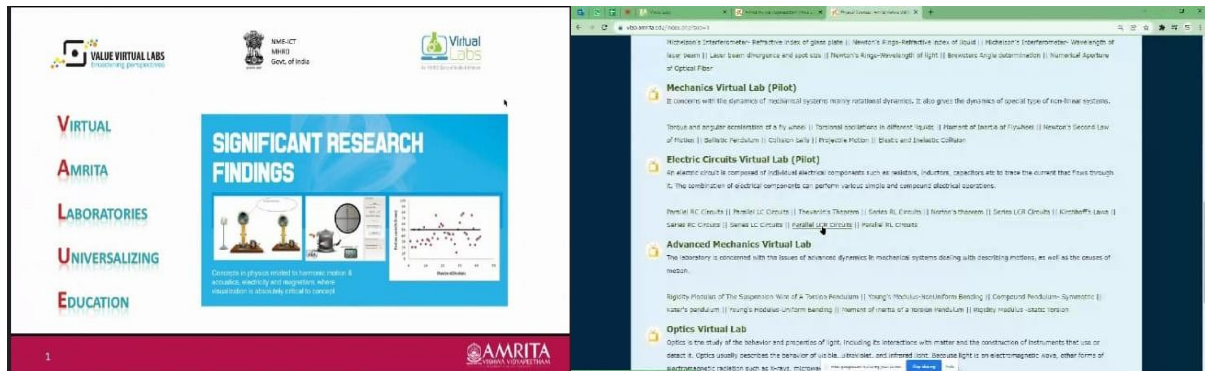
Illustrating beautifully with pictorial examples, he pointed out the significance of including virtual laboratories in our academic framework. He threw light on how often physical distances might limit performing a certain experiment by hand, which is of extreme relevance in the current pandemic situation. Also, often it becomes difficult to bear the instrumentation cost, as aptly pointed out by him.



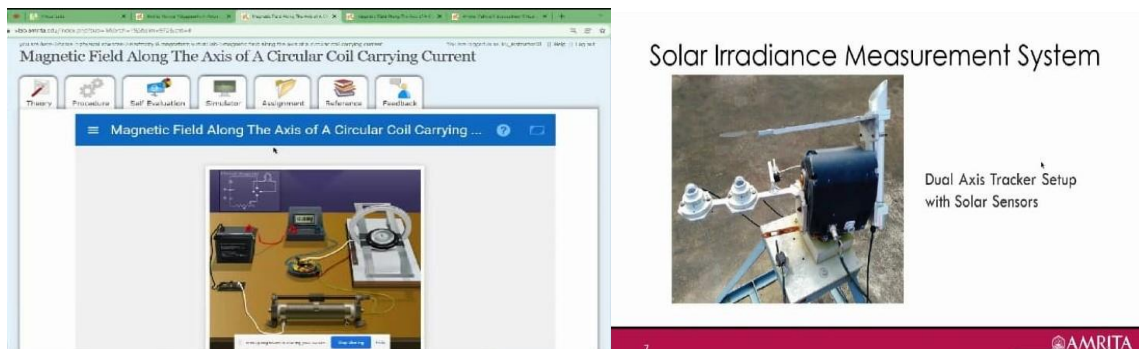
A huge expanse of laboratories is covered under this Virtual framework, ranging from Biotechnology and Biomedical Engineering, Chemical Sciences, Physical Sciences and several others to even upto different Engineering regimes like Electrical, Mechanical etc. Also, different types of experiments are covered like Animation, Simulation, Interactive Animation and Remote Trigger. He spoke about the different branches of

each arena. Speaking about the launch of Virtual Labs on 23rd February, 2012; he sketched the Nodal Centre Program, throwing light on the different participating Institutes. He also pointed out the social impact of this programme.

He then provided a hands-on training starting from how to open the corresponding website to access a particular experiment, describing in detail each step. He illustrated in detail a number of experiments, also giving instructions and showing as to how to install the adobe flash player. He illustrated how this framework gives a person opportunity to unmistakably understand the circuit framework.



In the latter part of the workshop, he highlighted the significant research findings, speaking about the research publications. He spoke about the factors which affect experimental self-efficacy. He threw light on Solar Irradiance Measurement System, Modification of Alternate Conception, Battery Capacity Computation, Cognitive Load Management in Multimedia Enhanced Interactive Virtual Laboratories and Improving Perception of Invisible Phenomena in Undergraduate Physics Education using ICT. Lastly, he gave a graphical illustration of how assessment result varied in classroom teaching methods and using virtual laboratory framework.



The workshop, with its topic of extreme relevance found great interest among the students and teachers, which was reflected very much in the number of participants in the workshop:

Number of faculties = 25

Number of students = 112

And, as William Shakespeare quoted 'All's well that ends well', the workshop ended on a very positive note, with, in the words of Robert Frost, having 'miles to go before I sleep'.

Dr. Nababrata Ghoshal:




Dr. Sudipa Upadhaya:



Nodal Coordinators

Ramsaday College Nodal Centre



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