Online Certificate Course on

"*Physics with SCILAB*"

23rd August to 18th September 2021

REPORT

The applications of SCILAB software in Science and Engineering bearing in mind, a four weeks online course "Physics with SCILAB" (2nd Edition) was designed and implemented by Department of Physics during 23rd August to 18th September 2021 particularly for Physics Students and Faculty.

The course was announced through online platforms two months prior to the commencement. An enormous response had received from the Physics students from all over India, including the UG/PG/Research students of IIT's, IISER's, NIT's, Central Universities, State Universities, Deemed Universities and Affiliated collages. In all 373 students registered out of which 225 students were selected for the course. After rigorous evaluation through the five assessments 129 have found eligible for awarding the course completion certificate.

The course was conducted totally through online platform as Video Lectures (You Tube) and Live Online Lectures (Zoom).

The expected outcomes of the course from the participants as mentioned below have confirmed through the evaluation of the assignments conducted during the course. The satisfaction of the students is reflected in their feedbacks about the course contents, content delivery, doubt solving and evaluation process.

Students learned through this course:

- Introduction to Scilab environment
- Scilab datatypes, variables and constants
- Matrix operation in Scilab
- Plotting math functions in Scilab
- Changing axes properties in scilab plots
- Plotting Bar graphs in Scilab
- Putting Latex formatted text and math symbols in Scilab plots
- Solving linear algebraic equations in Scilab
- Introduction to Xcos: The Scilab simulator
- Making simulations for Physical systems using Xcos
- Introduction to Scilab functions
- Writing your own functions in Scilab
- Solving ordinary differential equations
- Calculating Fourier coeficients and Plotting Fourier Series
- Conditional branching
- Creating codes to solve the problems in Physics

Coordinator