VIRTUAL LAB ON FLUID AND THERMAL SCIENCES

(Lab Elective I)

I Semester

Course Code: 19ME22M1	L	P	C
	0	3	1.5

Course Outcomes: At the end of the course the student shall be able to

CO1: Determine major and minor losses for internal flow through a pipe, nozzle-diffuser and able to experiment with flow measurement devices like Venturimeter.
CO2: Explain heat conduction through different geometrical shapes and compare the results obtained.
CO3: Explain heat conduction through composite systems of different cross-sections and validate results through comparison.
CO4: Determine the overall heat transfer coefficient of parallel and counter flow heat exchanger.
CO5: Identify relation between intensity of the radiation from a flat source or point source with distance.

LIST OF EXPERIMENTS: Any TEN experiments from the following

1. Energy losses in pipe flow
2. Flow through Venturi meter
3. Incompressible flow through nozzle and a diffuser
4. Conduction analysis of a single material sphere
5. Conduction analysis of a single material cylinder
6. Conduction analysis of a double material slab
7. Conduction analysis of a double material sphere
8. Conduction analysis of a double material cylinder
9. To determine the overall heat transfer coefficient (U) in the parallel flow heat exchanger.
10. To determine the overall heat transfer coefficient (U) in the counter flow heat exchanger.
11. To investigate the Lambert's distance law
12. To investigate the Lambert's direction law (Cosine law)

REFERENCES:

1. http://mfts-iitg.vlabs.ac.in/