# VIRTUAL LAB ON AUTOMOTIVE SYSTEMS

**(Lab Elective I)**

I Semester

| **Course Code:** 19ME22M2 | L | P | C |
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| | 0 | 3 | 1.5 |

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

CO1: Recall the knowledge about working principle of a four stroke SI engine.
CO2: Estimate the performance of a SI engine.
CO3: Relate combustion pressure in a single cylinder SI engine as a function of crank angle to determine Mean Effective Pressure.
CO4: Determine vibration levels at four different locations of an engine, measure and monitor the noise near the exhaust of a single cylinder SI engine as a function of engine speed.
CO5: Relate torsional vibrations of an engine under various load conditions and at constant rotational speed using a rotational laser vibrometer.

**LIST OF EXPERIMENTS:** Experiments from the following

1. P-v diagram of a SI engine
2. Torque crank angle curve of a SI engine
3. Load test on a SI engine
4. Mechanical efficiency of a SI engine
5. Determination of cylinder mean effective pressure
6. Engine health monitoring by vibration analysis
7. Variation of exhaust noise with engine speed
8. Torsional vibrations of an Engine

**REFERENCES:**

1. http://vlabs.iitkgp.ernet.in/rtvlas/#