

ME 315 Mechanical Engineering Laboratory III (0-0-3-3)

Vibration: Experiments on single and multi-degree of freedom systems, modal and frequency response analysis, acoustics measurement, Time domain and spectral analysis with software such as LabView; determination of FFT, PSD; effects of sampling, windowing, leakage, averaging, Dynamic rotor balancing.

Theory of machines: Static and dynamic balancing (multi-plane) of rotary systems, gyroscope, governors, whirling of shafts, simple and compound pendulums, determination of moment of inertia using trifilar suspension, torsional vibration;

Metrology: Use of various metrological tools like slip, angle gauge, feeler, taper, fillet, thread gauges, estimation of internal dimensions, use of various metrology equipment namely Coordinate measuring machine, non-contact profilometer, optical profilometer, laser scanner.