MECHANICAL SYSTEMS AND SIGNAL PROCESSING LAB (Virtual Lab)
(Lab Elective-I)

I Semester

Course Code: 19ME21M1

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0	3	1.5

Course Outcomes: At the end of the course, the student will be able to
CO1: Use basics of dynamic signals and determine responses of 1st and 2nd order mechanical systems.
CO2: Interpret frequency domain signal analysis and determine the frequency response of mechanical systems.
CO3: Interpret faults in materials using Ultrasonic technique.
CO4: Evaluate faults in gearbox, pump impeller and electrical motor.
CO5: Analyze vibrations in machinery by wireless technique.

List of Experiments:

1. Basics of dynamic signals
2. Responses of first and second order mechanical systems
3. Basics of frequency domain signal analysis
4. Frequency response of mechanical systems
5. Time-frequency analysis of mechanical systems
6. Ultrasonics in fault detection
7. Gearbox fault detection
8. Pump impeller fault detection
9. Vibration monitoring of machinery by wireless technique
10. Electrical motor fault detection by MCSA

WEB REFERENCE: http://vlabs.iitkgp.ernet.in/mssp/