

# DEPARTMENT OF MECHANICAL ENGINEERING

NAME OF THE LAB : ME 3581 - METROLOGY AND DYNAMICS LABORATORY

R 21

## Virtual Lab Link:

| S.No. | NAME OF THE EQUIPMENT                                             | Hyper Link                                                                                                                                                                                                                                                                                                            |
|-------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1     | Micrometer                                                        | <a href="https://www.youtube.com/watch?v=phFRSS7mH9Y">https://www.youtube.com/watch?v=phFRSS7mH9Y</a>                                                                                                                                                                                                                 |
| 2     | Vernier Caliper                                                   | <a href="https://www.youtube.com/watch?v=FNdkYIVJ3Vc">https://www.youtube.com/watch?v=FNdkYIVJ3Vc</a>                                                                                                                                                                                                                 |
| 3     | Vernier Height Gauge                                              | <a href="https://www.youtube.com/watch?v=xNebTevkKjg">https://www.youtube.com/watch?v=xNebTevkKjg</a>                                                                                                                                                                                                                 |
| 4     | Vernier depth Gauge                                               | <a href="https://www.youtube.com/watch?v=aEfE_EHLqfI">https://www.youtube.com/watch?v=aEfE_EHLqfI</a>                                                                                                                                                                                                                 |
| 5     | Slip Gauge Set                                                    | <a href="https://www.youtube.com/watch?v=M7w4XQJa-TY">https://www.youtube.com/watch?v=M7w4XQJa-TY</a>                                                                                                                                                                                                                 |
| 6     | Gear Tooth Vernier                                                | <a href="https://www.youtube.com/watch?v=nX-vAxGBqXo">https://www.youtube.com/watch?v=nX-vAxGBqXo</a>                                                                                                                                                                                                                 |
| 7     | Sine Bar                                                          | <a href="https://www.youtube.com/watch?v=PO-Ab7YfBzY">https://www.youtube.com/watch?v=PO-Ab7YfBzY</a>                                                                                                                                                                                                                 |
| 8     | Floating Carriage Micrometer                                      | <a href="https://www.youtube.com/watch?v=P--aDwmIfJs">https://www.youtube.com/watch?v=P--aDwmIfJs</a>                                                                                                                                                                                                                 |
| 9     | Profile Projector                                                 | <a href="https://www.youtube.com/watch?v=x27VTXKTBNS">https://www.youtube.com/watch?v=x27VTXKTBNS</a>                                                                                                                                                                                                                 |
| 10    | Bore Gauge                                                        | <a href="https://www.youtube.com/watch?v=n572qMo3g0A">https://www.youtube.com/watch?v=n572qMo3g0A</a>                                                                                                                                                                                                                 |
| 11    | Telescope gauge                                                   | <a href="https://www.youtube.com/watch?v=qDNP25PtBqM">https://www.youtube.com/watch?v=qDNP25PtBqM</a>                                                                                                                                                                                                                 |
| 12    | Tool Makers Microscope                                            | <a href="https://www.youtube.com/watch?v=53HEHwp0XKo">https://www.youtube.com/watch?v=53HEHwp0XKo</a>                                                                                                                                                                                                                 |
| 13    | Tubular Inside Micrometer                                         | <a href="https://www.youtube.com/watch?v=mDIIlRUCnHHs">https://www.youtube.com/watch?v=mDIIlRUCnHHs</a>                                                                                                                                                                                                               |
| 14    | Mechanical / Electrical / Pneumatic Comparator                    | <a href="https://www.youtube.com/watch?v=gXmgeqUcbZM">https://www.youtube.com/watch?v=gXmgeqUcbZM</a><br><a href="https://www.youtube.com/watch?v=5YLvHXMrf4">https://www.youtube.com/watch?v=5YLvHXMrf4</a><br><a href="https://www.youtube.com/watch?v=yQom0JmlvHk">https://www.youtube.com/watch?v=yQom0JmlvHk</a> |
| 15    | Autocollimator                                                    | <a href="https://www.youtube.com/watch?v=pUbXhZF7a-s">https://www.youtube.com/watch?v=pUbXhZF7a-s</a>                                                                                                                                                                                                                 |
| 16    | Temperature Measuring Setup                                       | <a href="https://www.youtube.com/watch?v=yVomxn6gPgs">https://www.youtube.com/watch?v=yVomxn6gPgs</a>                                                                                                                                                                                                                 |
| 17    | Force Measuring Setup                                             | <a href="https://www.youtube.com/watch?v=3xB2wZTNn_I">https://www.youtube.com/watch?v=3xB2wZTNn_I</a>                                                                                                                                                                                                                 |
| 18    | Torque Measuring Setup                                            | <a href="https://www.youtube.com/watch?v=LSEtHAXfWN8">https://www.youtube.com/watch?v=LSEtHAXfWN8</a>                                                                                                                                                                                                                 |
| 19    | Displacement Measuring Setup                                      | <a href="https://www.youtube.com/watch?v=_TglRnB0KKg">https://www.youtube.com/watch?v=_TglRnB0KKg</a>                                                                                                                                                                                                                 |
| 20    | Motorised gyroscope.                                              | <a href="https://youtu.be/PkpPsMPISaE">https://youtu.be/PkpPsMPISaE</a>                                                                                                                                                                                                                                               |
| 21    | Governor apparatus - Watt, Porter, Proell and Hartnell governors. | <a href="https://youtu.be/GXS2UOdW_Ds">https://youtu.be/GXS2UOdW_Ds</a><br><a href="https://youtu.be/exQt6FGYOvc">https://youtu.be/exQt6FGYOvc</a><br><a href="https://youtu.be/MJj86d2A7ms">https://youtu.be/MJj86d2A7ms</a><br><a href="https://youtu.be/zNzpOwWzxXw">https://youtu.be/zNzpOwWzxXw</a>              |
| 22    | Whirling of shaft apparatus.                                      | <a href="https://youtu.be/YOQMmos85co">https://youtu.be/YOQMmos85co</a>                                                                                                                                                                                                                                               |
| 23    | Dynamic balancing machine.                                        | <a href="https://youtu.be/ZSvrbMCx6Lo">https://youtu.be/ZSvrbMCx6Lo</a>                                                                                                                                                                                                                                               |
| 24    | Two rotor vibration setup.                                        | <a href="https://youtu.be/FdVAyF0uF3U">https://youtu.be/FdVAyF0uF3U</a>                                                                                                                                                                                                                                               |
| 25    | Spring mass vibration system.                                     | <a href="https://youtu.be/FJBPNJR2QJU">https://youtu.be/FJBPNJR2QJU</a>                                                                                                                                                                                                                                               |
| 26    | Torsional Vibration of single rotor system setup.                 | <a href="https://youtu.be/v2AQ3aQ6ZZQ">https://youtu.be/v2AQ3aQ6ZZQ</a>                                                                                                                                                                                                                                               |

|    |                                                |                                                                                                                                                                                                                                                                                                          |
|----|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 27 | Cantilever Vibration setup.                    | <a href="https://www.youtube.com/watch?v=bLGW7cWQGEY">https://www.youtube.com/watch?v=bLGW7cWQGEY</a>                                                                                                                                                                                                    |
| 28 | Gear Models                                    | <a href="https://youtu.be/uz436IxbI-I">https://youtu.be/uz436IxbI-I</a><br><a href="https://youtu.be/tjNsUzxRjfw">https://youtu.be/tjNsUzxRjfw</a>                                                                                                                                                       |
| 29 | Kinematic Models to study various mechanisms.  | <a href="https://youtu.be/38qMWJ8vhkE">https://youtu.be/38qMWJ8vhkE</a><br><a href="https://youtu.be/jsmpQSb2Vlc">https://youtu.be/jsmpQSb2Vlc</a><br><a href="https://youtu.be/0gjyVqwrf3E">https://youtu.be/0gjyVqwrf3E</a><br><a href="https://youtu.be/SOgoejxzF8c">https://youtu.be/SOgoejxzF8c</a> |
| 30 | Turn table apparatus.                          | <a href="https://www.youtube.com/watch?v=ApCSUUebobY">https://www.youtube.com/watch?v=ApCSUUebobY</a>                                                                                                                                                                                                    |
| 31 | Transverse vibration setup of<br>a) cantilever | <a href="https://youtu.be/w_GL2Eb4J1w">https://youtu.be/w_GL2Eb4J1w</a>                                                                                                                                                                                                                                  |
| 32 | Compound pendulum                              | <a href="https://www.youtube.com/shorts/X91b2jJ1z_0">https://www.youtube.com/shorts/X91b2jJ1z_0</a>                                                                                                                                                                                                      |