



MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.), INDIA

माधव प्रौद्योगिकी एवं विज्ञान संस्थान, ग्वालियर (म.प्र.), भारत

A GOVT. AIDED UGC AUTONOMOUS & NAAC ACCREDITED INSTITUTE, AFFILIATED TO R.G.P.V BHOPAL (M.P)

Department of Electrical Engineering

Measurement and Instrumentation Lab (130302)

LIST OF EXPERIMENTS

1. Study of different types of multimeter and measurements of various electrical quantities using them.
2. Handling of CRO and function generator
3. Measurement of low resistance using Kelvin's Double Bridge method
4. Measurement of inductance by Hay's bridge.
5. Measurement of capacitance using De Sauty's Bridge.
6. Measurement of medium resistance using Wheatstone Bridge.
7. Measurement of earth resistance using earth tester.
8. Determination of characteristics of Thermistor using VCL and transducer trainer.
9. Determination of characteristics of RTD using VCL and transducer trainer.
10. Calibration of single-phase AC energy meter by direct loading method.



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Do's & Don't in Laboratory

- Before starting Laboratory work follow all written and verbal instructions carefully.
- **Do not handle any equipment before reading the instructions /Instruction manuals.**
- If you do not understand a direction or part of a procedure, ASK YOUR CONCERN TEACHER BEFORE PROCEEDING WITH THE ACTIVITY.
- **Do not make any circuit changes or perform any wiring changes when power is ON.**
- Read carefully the power ratings of the equipment before it is switched ON.
- **Do not forcefully place connectors to avoid the damage. Observe type of sockets of equipment/power to avoid mechanical damage.**
- Conduct yourself in a responsible manner at all times in the laboratory. Don't talk aloud or crack jokes in lab.
- Observe good housekeeping practices. Replace the materials in proper place after work to keep the lab area tidy.
- **Remove dangling (bracelets etc.) jewelry during conduction of experiment.**
- Be aware of all safety devices.



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General Instructions

- ✓ Student should issue meters etc. before going to the test bench (experiment bench).
- ✓ Student is only responsible for any damage caused to the equipment in the laboratory during his session.
- ✓ If a problem is observed in any hardware equipment, please report to the lab staff immediately; do no attempt to fix the problem yourself.
- ✓ After completion of the experiment, components must be submitted properly to the lab Faculty.
- ✓ Please be considerate of those around you, especially in terms of noise level. While labs area natural place for conversations regarding designing the circuit, kindly keep the volume turned down.



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General Instructions

Pre-lab activities:

- Prepare observation note book which contains the following :
- Aim/Apparatus Required /Procedure/Observation table/ precautions for the allotted experiment informed in the previous lab class
- Refer the relevant topics covered in theory class

In-lab activities:

- Be caution while designing the circuits and while handling the Auto Transformers.
- Avoid parallax errors while calculating the values.
- Note down corrections made during the lab session.
- Answer to viva-voice.
- Get the observation corrected.

Post-lab activities:

- Completed experiments should be recorded in the lab record and corrected within one week after completion of the experiment.
- After completion of every module, a test/viva-voce will be conducted, and assessment results will have weight in the final internal marks.