



परिवहन अभियांत्रिकी प्रयोगशाला

Highway Engineering Lab

Major Equipments:

- MARSHAL APPARATUS
- PENETROMETER.
- DUCTILOMETER
- LOS ANGELES APPARATUS.
- RING AND BALL APPARATUS
- PENSKY MARTIN APPARATUS
- BENKELMAN BEAM
- AGGREGATE IMPACT TESTER
- FLASH & FIRE POINT APPARATUS
- ROAD POD VT WITH SOFTWARE



Newly Procured Equipments

- METRO COUNT.
- CONE PENETROMETER
- DIGITAL MARSHAL STABILITY .



In Charge

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Associate Faculty:

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Physical In Charge:

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Department Of Civil Engineering



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HIGHWAY Engineering Lab

SAFETY PRACTICES TO BE FOLLOWED IN LABORATORY:

1. Enter in Lab with enclosed Shoes/Footwear (no sandals).
2. Make sure that you know the location of First Aid Kit and Fire Extinguishers before you start your experiments.
3. Get First Aid immediately for any injury, no matter how small it is and do not wear loose dress.
4. Do not play with valves, screws and nuts.



DO's

- Be on time, at the start of the lab period, there will be a short introduction to the experiment you will perform that day.
- Thoroughly CLEAN your laboratory work space at the end of the laboratory session.
- Maintain silence and clean environment in the lab and put bags at allocated Locations.

DON't

- Do not try to run and operate any machine without permission and knowledge of the lab Personnel
- In case of any mishap - Do not be Panicky, be calm but quick report at once to the Lab Personnel.
- Do not eat or Drink in the Lab room at any time.



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Highway Engineering Lab(110505)

LIST OF EXPERIMENTS:

1. AGGREGATE CRUSHING STRENGTH TEST
2. AGGREGATE IMPACT STRENGTH TEST.
3. ABRASION TEST.
4. SHAPE TEST.(ELONGATION AND FLAKINESS TEST)
5. PENETRATION TEST.
6. SOFTENING POINT OF BITUMEN.
7. DUCTILITY TEST OF BITUMEN.
8. FLASH AND FIRE POINT OF BITUMEN
9. MARSHAL STABILITY TEST
10. METRO COUNT
11. STRIPPING VALUE OF ROAD AGGREGATE
12. BENKELMAN BEAM APPARATUS

COURSE OUTCOMES

- CO 1: Select suitable aggregate material by testing the physical properties.
- CO 2: Determine properties of bitumen and its grade.
- CO 3: Determine CBR value of material for subgrade and subsequent layers of pavement.
- CO 4: Design job mix formula for bituminous surface using Marshal Stability test.

INSTRUMENT MODEL NO.

| S.No. | Name of equipment | Model No. |
|-------|--|---------------|
| 1 | Aggregate Impact Tester With blow counter | AIM-456 |
| 2 | Flash Point (open)& Fire Point Cleave-land , Electrical heating | AIM-505 |
| 3 | Abel oil Cup Thermometer | AIM-50610 |
| 4 | Ring & Ball Apparatus , Semi Automatic | AIM-561-2 |
| 5 | Pavement Dynamic Cone Penetrometer with carrying case | AIM -567 |
| 6 | Digital Modified Marshall Apparatus, 100 KN single speed. | AIM-550-6 |
| 7 | Los Angeles Abrasion Testing Machine with Abrasive Charge | AIM- 458-1-S2 |
| 8. | Road Pod VT with software | VT 5900 |
| 9 | Thickness Gauge(Flakiness Gauge) | AIM -450 |
| 10 | Flash point & Fire Point Pensky Martin apparatus | AIM -511 |
| 11. | Penetrometer | - |
| 12. | Benkelman Beam Apparatus | - |