



जैवप्रौद्योगिकी विभाग  
DEPARTMENT OF  
**BIOTECHNOLOGY**



**AATMANIRBHAR BHARAT**  
आत्मनिर्भर भारत

# Infectious Disease Diagnostic Laboratory: I-Lab



A Govt. of India initiative to expand rapid-response capacities to tackle epidemic outbreaks; facilitating large scale testing and detection in the least possible time

Infectious Disease Diagnostic Laboratory (I-lab) is a Rapid Response Mobile Laboratory uniquely equipped with both molecular biology and serology antibody diagnostic testing services particularly related to testing of infectious diseases.

The fully equipped vehicle could be deployed to various areas for testing infectious diseases like COVID 19, Hepatitis B&C, HIV, Dengue, Chikungunya, Malaria along with routine biochemical tests like Glucose (Diabetic), GTT, Liver, Kidney, Thyroid function tests etc.

## Objectives of the I-Lab

- Detect, monitor and control emergency pandemic events & outbreaks.
- Onsite laboratory testing and analysis
- Increased speed and capacities for Laboratory testing
- International standard Diagnostic testing processes

## Composition of the I-LAB

### FABRICATED DIAGNOSTIC LABORATORY MOUNTED ON BHARAT BENZ CHASSIS

A 20ft x 8ft container mounted on a Bharat Benz chassis consisting of all interiors, ceiling lights, laboratory furniture, water connection and HVAC system.



With chassis and without chassis option available



## Serology Testing Section

This section equipped with high-end automated ELISA systems, analyses blood samples for the presence of viral antigens and antibodies (IgG and IgM)



**Molecular biology Laboratory for virological diagnosis with BSL-2 facilities.**

This section provides Immunogenetics and Molecular testing facilities for genetic screening and detection of various infectious diseases along with DNA isolation and banking.

## State of the art Medical Diagnostic Equipments

- Real-Time PCR Machine
- RNA Extractor



- Fully Automated micro strip ELISA processor
- Automated ELISA microplate Reader & Washer
- Semi Automated Clinical Chemistry Analyzer



- Cold centrifuge microfuge for RNA extraction
- Micro Centrifuge
- Vortex



- Biosafety cabinet Class 2A
- PCR Workstation

- Auto Pipettes and Multi Channel Pipettes
- Fogging Machine



- Under the Counter
  - Refrigerator 2° to 8° C
  - -40° C Freezer
  - Incubator
  - Dry Hot Air Oven



### Testing Capacities:

• About 57 Clinical Biochemistry Tests

• About 20 Infectious Diseases Tests



## Staff Requirements

- Medical Microbiologist: 1 (Molecular Virology)
- Lab Technicians: 2-3 (Molecular Virology)
- Multi-Task Staff for washing / cleaning: 1
- Data Entry Operator: 1
- Vehicle driver: 1

## Reagents Requirement For Covid-19 Testing Per I-Lab

- RT-PCR Kits: for 2400 tests per month
- RNA EXTRACTION Kits: 2400 tests per month
- ELISA IgG/IgM Kits: for 7500 tests per month
- Nuclease Free Water

## Plasticware Requirements

- Cryovial /tube rack
- Tube rack (15 ml tubes)
- 96 well PCR plates and cooler
- Cryobox
- Cryovials (2 ml)
- Disposable plastic pipettes
- MicroAmp Fast reaction tubes
- Filter barrier and Micro tips (2-1000ul)
- Vacutainers (Clot Activator Tube)
- Sample collection syringes

## Other Consumables Requirements

- Personal Protective Equipment
- Tourniquet
- Flocked Dacron swabs
- Forceps
- Tissue paper rolls & Cotton
- 1% sodium hypochlorite
- Biomedical waste disposal bags
- Biohazard labels
- Marker pens
- Hand sanitizers



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