



## **Swami Ramanand Teerth Marathwada University Nanded (M.S.) 431 606**

**Molecular Diagnostics and Clinical Research Laboratory**  
Center for Agro-Bio Innovation and Incubation Foundation (a section 8 company)  
Swami Ramanand Teerth Marathwada University, Nanded (MS) India.

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### **Background:**

The increasing number of COVID-19 cases in Marathwada region and difficulties in sending samples to Pune for testing due to the time and cost required has increased stress and panic in the society. Considering the stressful events, Honorable Vice Chancellor, Dr. Udhav Bhosle was thinking if University can contribute to atleast minimize if not eased the stress and panic, completely. Honorable Vice Chancellor in consultation with one of the faculty members, Dr. G. B. Zore has decided to start COVID-19 sample testing in the University using the infrastructure available in the research laboratory and in the School of Life Sciences.

Because,

- As COVID-19 has become a state emergency for our country, rapid detection of infected patients is a priority to isolate and contain it from spreading further. Considering the current situation, testing laboratories (especially in Marathwada region of Maharashtra) was needed on a priority basis.
- Our laboratory at CABIIF (Section-8 Company), SRTM University, Nanded has all the necessary infrastructure, equipment, manpower and support system.
- However, though we have a fully functional laboratory as mandated by ICMR for detection of RNA viruses, we were not doing virus testing for clinical or commercial purpose and being used only for research purpose.
- We have applied for NABL accreditation as it is a prerequisite for private laboratories. thanks to all the administrative support from District Magistrate, Dr. Vipin Itankar and DMER, Dr. Tatyrao Lahane.

Thus, we proposed and set up a COVID-19 sample testing facility in our Incubation Center, Center for Agro-Bio Innovation and Incubation Foundation (a section 8 company) of Swami Ramanand Teerth Marathwada University, Nanded (MS) India.

**Key Features:**

- **Ours is one of the first University in the country to propose and start COVID-19 testing.**
- **Ours is the only University laboratory in the country to have NABL accredited COVID-19 testing laboratory.**
- **One of the first laboratory testing record number of samples within a months i.e. ~8000. It runs 24/7 from May 1st, 2020.**
- **Facility is mainly operated by University staff and students except few contractual members.**

**AIM:**

**Provide the COVID-19 sample testing service for Marathwada region.**

**2. Objective:**

- COVID-19 sample testing using WHO and Govt. of India approved Realtime-qPCR based kits and methods.

**Capacity:**

We can analyze ~300 samples /day using existing infrastructure and additional manpower. If needed it can be extended by increasing number of technical persons.

**The Team:****Human Resource and expertise:**

We have all the manpower with the qualifications and experience recommended by ICMR. Our incubation center, **Center for Agro-Bio Innovation and Incubation Foundation (CABIIF)** (a section 8 company) of SRTM University is main applicant (as a Private Laboratory as per ICMR guidelines).

<b>Name</b>	<b>Designation</b>	<b>Academic and Professional Qualifications*</b>	<b>Specialization</b>	<b>Experience related to present work (in years)</b>
Dr. Udhav V. Bhosle	President CABIIF (Vice Chancellor, SRTMU)	M. Tech. Ph. D. (IIT, Bombay)	Engineering	25
Dr. G. B. Zore	Scientist -II (Chief Executive)	M.Sc., Ph. D	Biotechnology	14
Prof. Sanjay Kumar	On Panel Microbiologist	MD	Microbiology	20
More	On Panel Microbiologist	MD	Microbiology	4
Dr. Supriya Yemekar	On Panel Microbiologist	M. Pharm., Ph. D	Pharmaceutical	10
Dr. Sailesh J. Wadher	On Panel Pharmacist	MSc., Ph. D	Sciences	11
Dr. Manmohan Bajaj	Scientist -I (TM)	M. Sc	Biotechnology	6
Mr. Sandeep Kale	Scientist -I (QM)	B. Sc.	Biotechnology	2
Manoj Rampure	Technical assistant	B. Sc.	Biotechnology	2
Anand Pawar	Technical assistant	B. Sc.	Biotechnology	2
Sumit Nagargoje	Technical assistant	B. Sc.	Biotechnology	2
Piyush Walurkar	Technical assistant	B. Sc.	Microbiology	1
Kajal Bhosle	Technical assistant	B. Sc.	Biotechnology	1
Disha Baswe	Technical assistant	DMLT	Microbiology	1
Namrata Yengde	Technical assistant	DMLT	Botany	
Balaji Bodke	Lab Technician	DMLT		
Sidheshwar Munde	Lab Technician	M. Sc.		
Rohini Kamble	Lab Technician	BA		
Suresh Govindwar	Data entry Officer	MA		
Bhaskar T	Data entry Officer	BA		
Somnath Pund	Data entry Officer			
Anil Gudde	Data entry Officer			

### **Specific roles of experts from CABIIF:**

#### **Center for Agro-Bio Innovation and Incubation Foundation (CABIIF), SRTM University, Nanded:**

Dr. Gajanan Zore (GZ), Coordinator of the center will be the Chief Scientist and operations in-charge of the sample analysis. He will manage the sample testing facility and operations. It will be his responsibility to make sure the facility is running smoothly. GZ work with the advise and help from Government authorities and Hon'ble Vice Chancellor as needed. He may visit existing and approved sample testing lab for a day, if required. In consultation with Government authorities and Hon'ble Vice Chancellor, GZ will develop precise benchmarks and timeline for the entire operations and the benchmark timeline will be monitored closely. If a benchmark is missed in a row, that will trigger significant involvement by government authorities who, in consultation with experts, may provide remedial steps in the form of additional technical, managerial or logistical support, as needed.

- i) **Dr. Manmohan Bajaj (Ph. D.) and Mr. Sandip Kale (M. Sc.)** are scientists from at CABIIF. They will be based at CABIIF, SRTMU and will manage the operations under the direct supervision of GZ and with the advice and help from Dr. Udhav V. Bhosle (Hon'ble Vice Chancellor and President, Board of Director, CABIIF). Technical assistants will help the scientists in sample analysis.
- ii) Laboratory Cleaning and maintenance and the Bio-Waste disposal will be managed by a private company authorized by local civic body.

### **Management and expected impact:**

- a. It will have a great impact as our facility is serving three districts of Marathwada viz. Nanded, Hingoli and Parbhani and tested about ~10,000 samples of COVID-19.
- b. CABIIF facility is being used through its fullest potential in order to not only meet the demands of Nanded district but also the demands of nearby districts of Marathwada and Vidarbha. We have all the setup for advanced molecular biology analysis including PCR (3 numbers), Realtime qPCR (01-384 well plate, gradient enabled), centrifuges, freezers, biosafety cabinets, air-conditioned and dust free labs.

- c. CABIIF, SRTM University will follow social responsibility generate consultancy in addition to support a Startup incubated at CABIIF.

**Supporting Information:**

**Annexure III.**

**List of Major Equipments required for virus detection available at CABIIF along with makes and models.**

	<b>Equipment</b>	<b>Make</b>	<b>Model</b>
1	<b>Realtime PCR</b>	Biorad	185-5484 CFX384 Touch™ Real-Time PCR Detection System with Starter Package
2	<b>RNA extraction System</b>	M/s. Invitrogen Bi-oServices India Pvt.Ltd	AUTOMATED NUCLEIC ACID EXTRACTION SYSTEM Model : King-fisher Duo Prime 54001 10
3	<b>Biosafety Cabinet</b>	Invitrogen	BIOSAFETY CABINET Model : Thermo Fisher 1374 Thermo
4	<b>Automated liquid handling system</b>	Eppendorf	epMotion® 5070
5	<b>Elisa Plate reader</b>	Thermo	Model- Multiskan FC51 I19000
6	<b>Elisa Plate washer</b>	Thermo	WellWash 5165000
7	<b>Centrifuge (refrigerated)</b>	Eppendorf	Centrifuge 5920 R with five rotor and two adaptors
8	<b>Deep Freezer -20</b>	Voltas	535 L
9	<b>Freezer</b>	Voltas	600 L
10	<b>Deep freezer -86</b>	Eppendorf	F570300001, CryoCube F570, -86°C Ultra-Low with accessories
11	<b>MilliQwater purification system</b>	Millipore	Elix® Reference 20 Kit IN
12	<b>Micropipettes</b>	Eppendorf	T1, T20, T10, T10, T100, T1000

13	<b>Multichannel Pipettes</b>	Eppendorf	3
14	<b>Ice flaker</b>	Bionics	BST/IFM-50 50Kg per Day
15	<b>PCR</b>	Biorad	186-1096 T100 Thermal Cycler
		Eppendorf	Mastercycler nexus gradient 230 V/50-60
16	<b>Cooling Incubator REMI</b>		Indigenous Remi made CI-6S
17	<b>Micro centrifuge</b>		Bangalore Genei/ MC 1
18	<b>pH Meter</b>		Systronics
19	<b>Autoclave</b>		Flash Autoclave portable steam Sterilizer-22-25 liters. Model: Esteem and Esta-112
20	<b>Laminar airflow</b>		Bio clean air
21	<b>HP</b>		Z278 Workstation with accessories
22	<b>Zastra Innovations Pvt. Ltd.</b>		SeeSAR software Drug Design and Medicinal Chemistry Star Drop environment software
23	<b>LINK SYSTEMS</b>		Accessories for networking
24	<b>Multichannel pipette</b>		Eppendorf Research Plus Multichannel Pipette of 10 uL, 100 uL and 300uL capacity
25	<b>Ettan IPGphor 3 Isoelectric Focusing Unit,</b>		Ettan IPGphor 3 Isoelectric Focusing Unit, 1 with built-in 10.000 Volt / 1.5mA power supply and Peltier thermostated, gold-plated cooling plate for excellent heat transfer and electrode contact, programmable (10 programs, 9 steps each)
26	<b>SE600 RUBY VERTICAL UNIT,</b>		SE600 RUBY VERTICAL UNIT, complete incl. dual gel caster for 16x18cm gels, heat exchanger, 15-well comb(2), spacer set 1.5mm, glass plates(6), Wonder Wedge, Spacer Mate, Cello-Seal, clamps,

27	<b>EPS 601 Power Supply</b>	EPS 601 Power Supply 600 V, 400 mA, 100 W Maximum.
28	<b>2-D Gel Analysis Software</b>	2-D Gel Analysis Software IMP 7 1 concurrent network license. IMP 7 1 concurrent network license
29	ImageQuant 300 with ImageQuant TL Software	IMP 7 1 concurrent network license. IMP 7 1 concurrent network license, Image Quant 300 with Image Quant TL Software
30	RUSA Center for Herbo-medicinal studies: Convener Prof. S. J. Wadher	All the equipments and resources including available in the center will be available for lab.

In addition to these, we have all the minor equipment including incubators, freezers, and clinical centrifuges.

#### **Annexure IV: Building and Lab space:**

We have a laboratory equipped with appropriate biosafety and biosecurity measures as recommended by ICMR. We have a dedicated building of 5000 sq feet for incubation center. Out of which almost 1000 sq feet is being used for the testing laboratory wherein, following sections are made:

- Sample collection room
- Sample processing room
- Molecular biology laboratory
- Preparation room
- Washing room and Autoclave room
- Instrumentation lab
- Meeting room
- In charge room





