IFTM UNIVERSITY

(Established under UP Govt. Act No. 24 of 2010 and section 2(f) of UGC Act 1956)
Lodhipur Rajput, Delhi Road, Moradabad- 244102, U.P.
Telephone: 0591-2360817, 2360818 Email: info@iftmuniversity.ac.in Website: www.iftmuniversity.ac.in

PROMOTION OF RESEARCH AND FACILITIES

SESSION: 2020-21

IFTM UNIVERSITY

(Established under UP Govt. Act No. 24 of 2010 and section 2(f) of UGC Act 1956)
Lodhipur Rajput, Delhi Road, Moradabad- 244102, U.P.
Telephone: 0591-2360817, 2360818 Email: info@iftmuniversity.ac.in Website: www.iftmuniversity.ac.in

Central Instrumentation Centre (CIC)

To cater the need of researchers in different areas, the Central Instrument Centre (CIC) was established at the IFTM University, Moradabad. It is located at the first floor of Pharmacy Academy building of the University. Central Instrumentation Centre of IFTM University houses a wide range of high-end instruments for pushing the boundaries of research in multi- disciplinary research areas, science and technology fields. These instruments and facilities help the faculties, research scholars and students to carry out globally competitive research in pharmacy, biotechnology, basic and applied sciences. CIC facilities are regularly used by research scholars and students of various schools of university for completing their research projects and for their routine practical work. Students operate instruments themselves for their experiments and strengthen their theoretical concept and make them confident in facing interviews for jobs and carryout further research work. CIC facility is used for the analysis of samples and organizing short term courses/seminars, workshops on the use and application of various instruments and analytical techniques. Central Instrumentation Centre provides the facilities to students and researchers enabling them to keep pace with developments taking place globally publish their research findings in peer reviewed high impact factor journals.

Contact:

Central Instrumentation Centre
IFTM University, Moradabad- 244102
info@iftmuniversity.ac.in; 0591-2360818
Dr. Abhishek Tiwari, Prof Incharge, CIC
Mr. Sanjay Kumar, Technician

Sanjeev Agarwal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

IFTM UNIVERSITY

(Established under UP Govt. Act No. 24 of 2010 and section 2(f) of UGC Act 1956)
Lodhipur Rajput, Delhi Road, Moradabad- 244102, U.P.
Telephone: 0591-2360817, 2360818 Email: info@iftmuniversity.ac.in Website: www.iftmuniversity.ac.in

List of Instruments in Central Instrumentation Centre

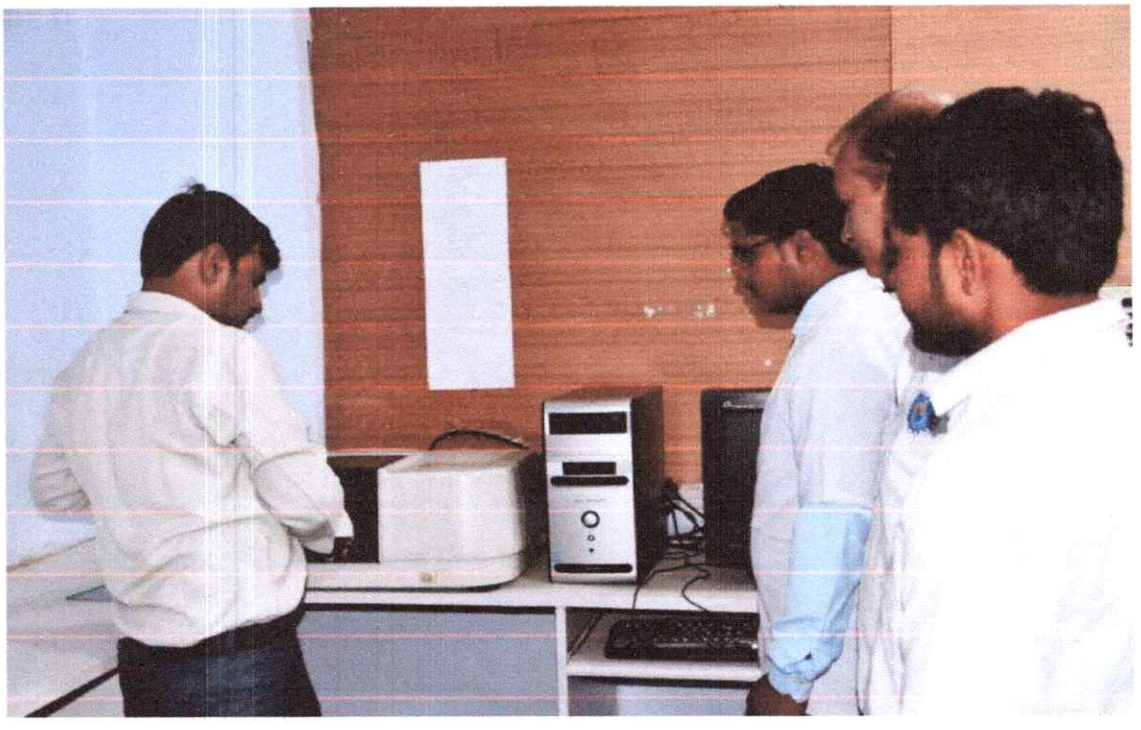
Sr. No.	Name of Instrument	Utility
1	Fourier Transform Infrared (FTIR) Spectroscopy	Identify molecular components and structures.
2	High-Performance Liquid Chromatography	To separate, identify and quantify each component in a mixture.
3	UV/Visible Spectrophotometer	Quantitative determination of analytes. Determine the kinetics or rate constant of a chemical reaction.
4	PCR-Thermocycler	Used to amplify segments of DNA via the Polymerase Chain Reaction
5	Centrifuge	Used to separate small amounts of suspended particles from liquids and purification of mammalian cells. Used for Isolation of macromolecules such as DNA, RNA, proteins, or lipids.
6	Nephelometer	Used to determine the concentration of colloidal particles in a liquid or gas colloid. Used to assess air quality for pollution monitoring, climate monitoring, and visibility.
7	Digital Potentiometer	To adjust the volume in stereo and other appliances. To regulate Programmable Voltage.
8	Refractometer	To determine the concentration of a solute in a solution and help to identify the identity of a sample.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

9	Polarimeter	Used for measuring the polarization of light and analyzing the optical activity of chemical substances. Investigating kinetic reactions by measuring optical rotation as a function of time.
10	Microplate ELISA Reader	Used in conjunction with multiwell plates, like the 96 well plates
11	Digital Photo Colorimeter	Colorimeters are widely used to measure the optical density or absorbance of a colored chemical to determine its concentration.
12	Biochemistry Analyzer	To measure metabolites present in biological samples such as blood or urine.
13	Digital Balance	To weigh ingredients in a laboratory.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

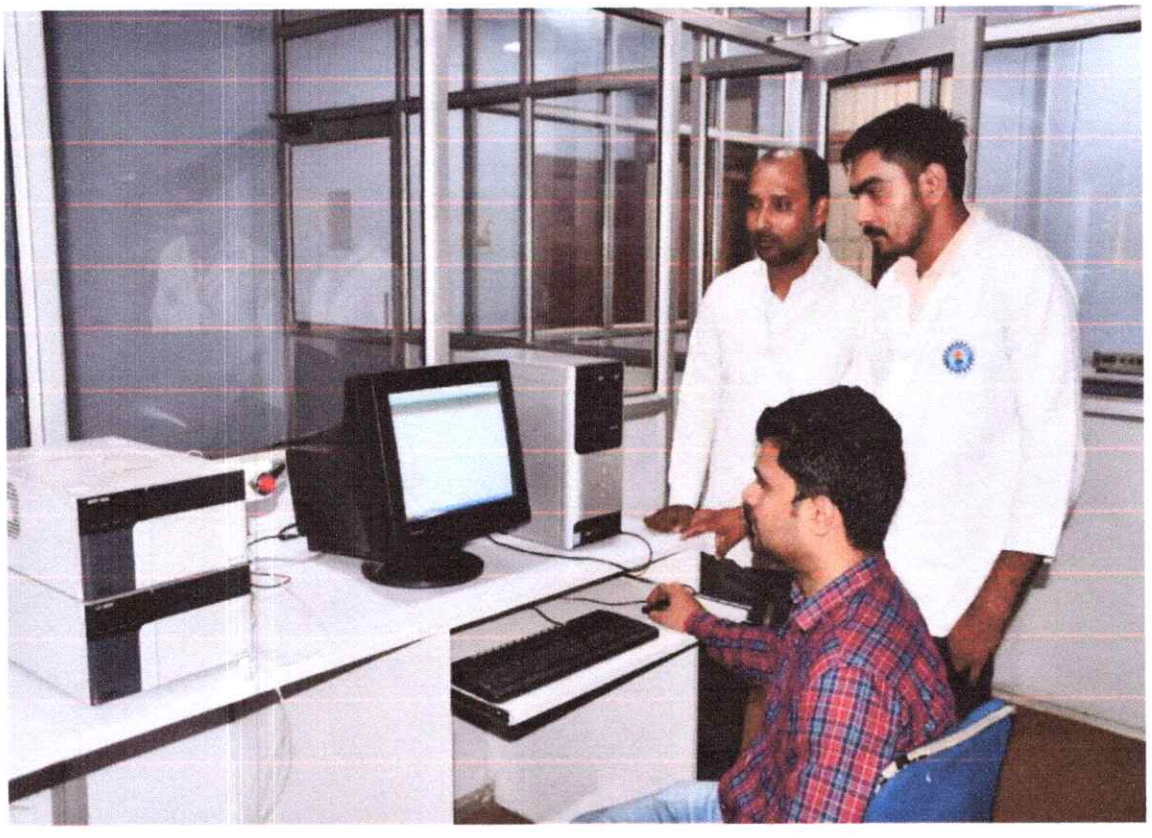
Fourier Transform Infrared (FTIR) Spectroscopy



Description/Purpose: The make and model of FTIR is Shimadzu and FTIR-8400S. The FTIR-8400S achieves a resolution of 0.85 cm^{-1} to achieve the best signal-to-noise ratio. Proof Double Cat's Eye interferometer is applied as patented high-quality misalignment. Hermetically sealed optical compartment is used as automated moisture monitoring system. Large sample compartment is 230 X 240 X 180mm. It is a simple technique to identify the presence of various functional groups in an organic molecule.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

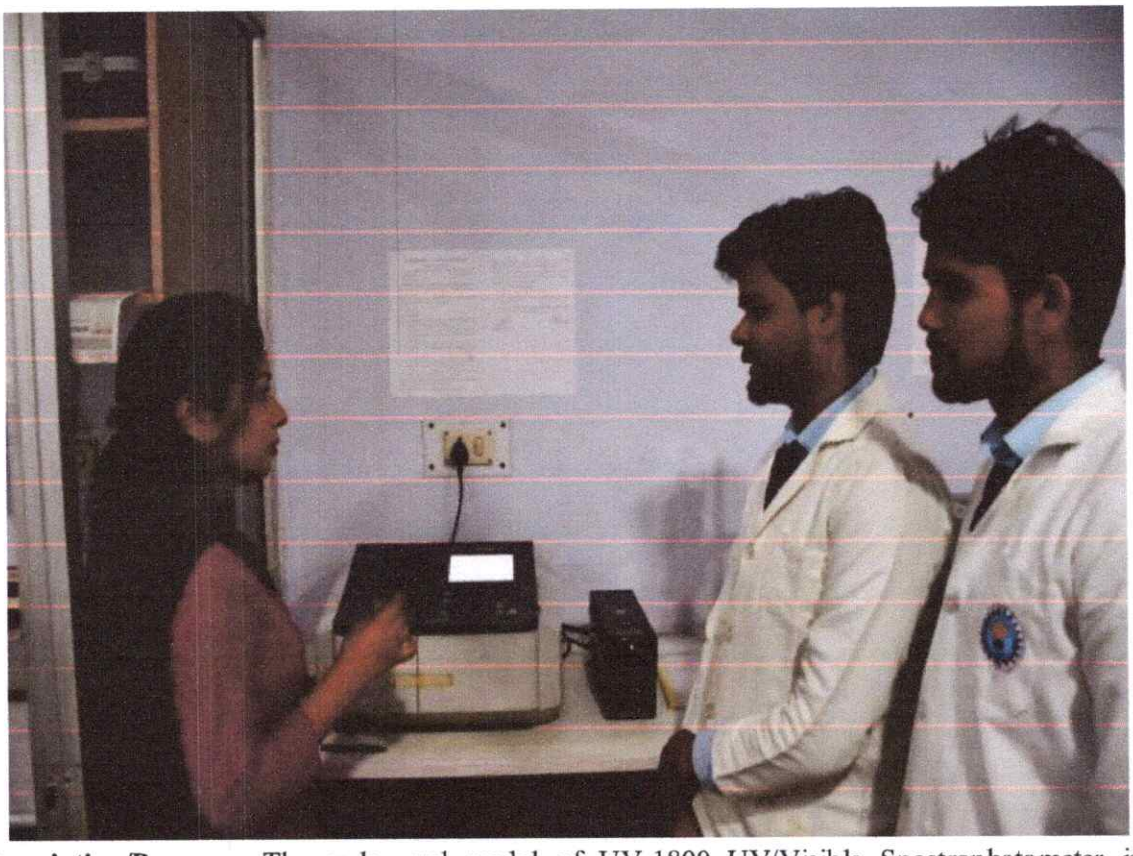
High-Performance Liquid Chromatography (HPLC)



Description/Purpose: The make and model of HPLC is Shimadzu and LC-20AT. In HPLC, A new kind of check valve has been added, and the solvent delivery control system has been altered, which has increased flow-rate accuracy and precision in the micro-flow rate zone. Hexane and other non-polar organic solvents can be given steadily. An optional low pressure gradient valve (LC-20AD/20AT), CBM-20Alite system controller, and a seal wash pump (LC-20AD) can now be installed inside the solvent delivery unit, enabling 4-solvent gradient elution in a compact space. The LC-20AB high-pressure binary gradient pump delivers the performance of two LC-20AD pumps in one compact unit. It is most important method in the fields such as clinical research, biochemical research and Industrial quality control and others. It is utilized to detach and refine high purity target compounds from a mixed solution.

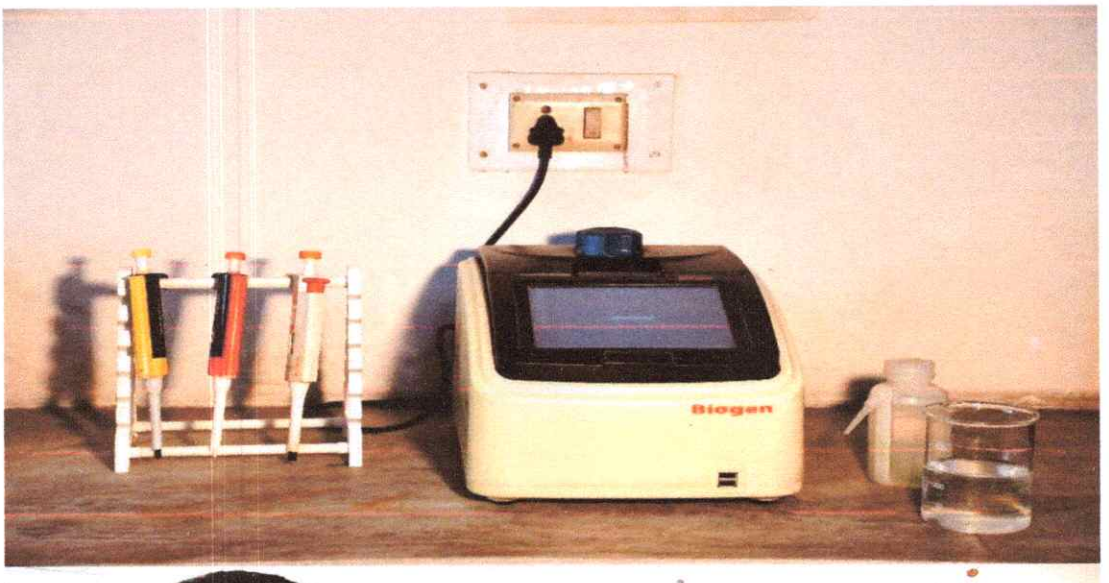
Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Shimadzu UV-1800 UV/Visible Spectrophotometer



Description/Purpose: The make and model of UV-1800 UV/Visible Spectrophotometer is Shimadzu and UV-1800. The UV-1800 achieves a resolution of 1 nm, which at the same time is the highest level of wavelength resolution in its class. The UV-1800 is only 450 mm wide and 490 mm deep, allowing installation in tight spaces. The space saving design of UV-1800 makes the instrument ideal for even small laboratories. The UV-1800 features a USB port, allowing for connection of USB memory directly to the instrument. By using the UVProbe software, it is possible for the user to control the UV-1800 with a PC. (A USB cable is required for connecting UV-1800 to a PC.) Furthermore, data for spectra and time-course curves can be displayed and saved with commercial spreadsheet software. The user can also choose to print from a printer that supports PCL control codes. It is mainly used in a quantitative analysis of samples, bacterial culturing, drug identification, detection of extent of conjugation, determination of purity of compound and in quality control in the beverage industry and chemical research.

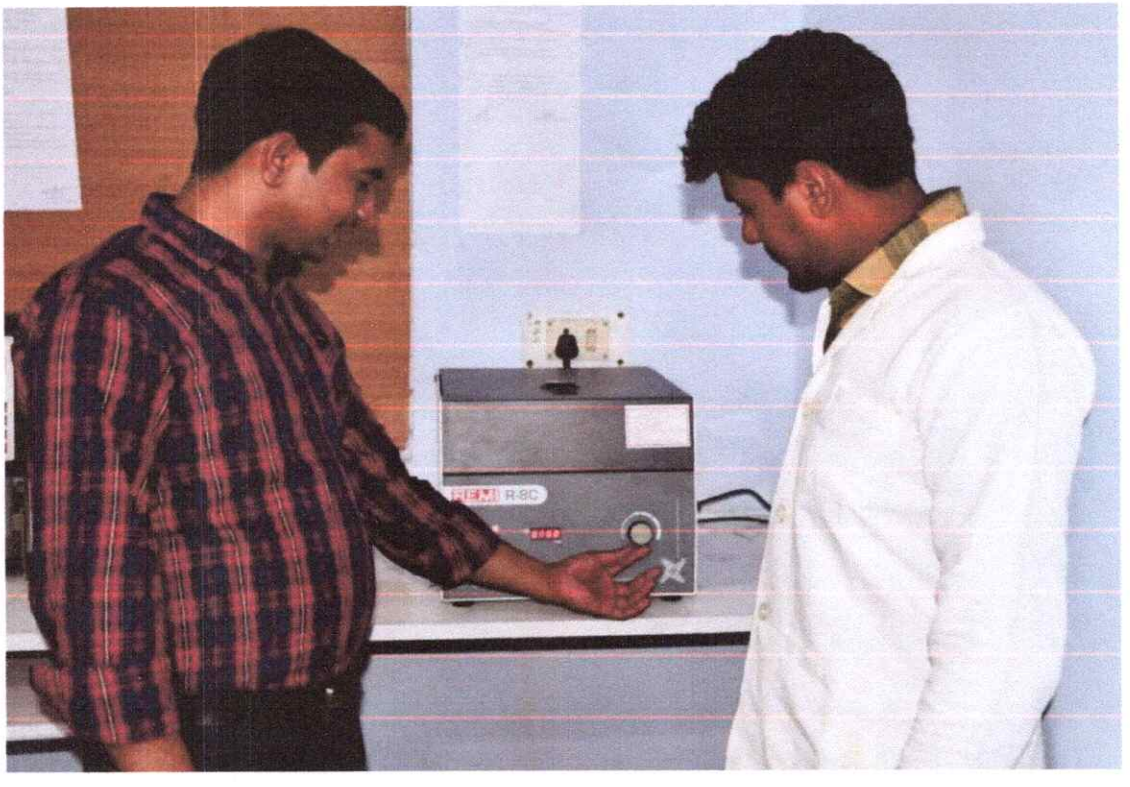
Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.



Description/Purpose: The make of PCR-Thermocycler is Biogen. Thermocycler (also known as PCR Machine or DNA Amplifier) is a laboratory apparatus used to amplify segments of DNA via the Polymerase Chain Reaction (PCR). The device has a thermal block with holes where tubes holding the PCR reaction mixtures can be inserted. The cycler then raises and lowers the temperature of the block in discrete, pre-programmed steps. It is important instruments which are needed in the field of gene cloning, DNA isolation, forensic & medical applications.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Centrifuge



Description/Purpose: The make and model of Centrifuge is REMI and R-8C.The maximum Speed is 6000 rpm and maximum Capacity is 400 ml. applied relative Centrifugal Force is 500g but metal buckets suitable for swing out rotor S 4-100. The applied angle Rotors is A 4-100. It is used for the purification of cell, organelle, virus, protein, and nucleic acid.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Nephelometer

Description/Purpose: The make and model of Nephelometer is ELICO and CL-52D. It is an instrument for determining the concentration of suspended particulates in a liquid or gas colloid. Continuous nephelometric monitoring of changes in scattering can be used to test antimicrobial drugs and their effects on microbial growth kinetics. Nephelometry is used to quantify macromolecules in organic chemistry.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Digital Potentiometer

Description/Purpose: The make and model of Digital Potentiometer is Specto Analytical and SAI-32.This achieves a resolution of 1 nm 0.1 mV. Digital Potentiometer for redox potential measurement 3 1/2 LED display, Range 0 to ±1999mv. Resolution 1mv accuracy ± 1%, power supply 230v ±10%AC, supplied with O.R.P. Electrodes, Electrode stand & Dust Cover. It is mainly applied for trimming and scaling analog signals by microcontrollers.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Refractometer

Description/Purpose: The make of Refractometer is GROVER. It is an instrument for the determination of an index of refraction. Sample temperature control is a popular feature available for refractometer. Automatic prism wash system is available. It used for measuring concentrations of aqueous solutions.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Polarimeter

Description/Purpose: The make of Polarimeter is Sipcon. It is used for determining the direction of polarisation of the light or the rotation of an optically active substance. Excellent Azimuth and Ellipticity Accuracy of this is ±0.25°. Beam Terminates Inside the Module is used to find the results. Polarimeter is used in a wide range of applications like determination of the purity and concentration of ingredients in pharmaceuticals to the maturity testing of agricultural products to the measurement of the sugar content in beverages and candies.

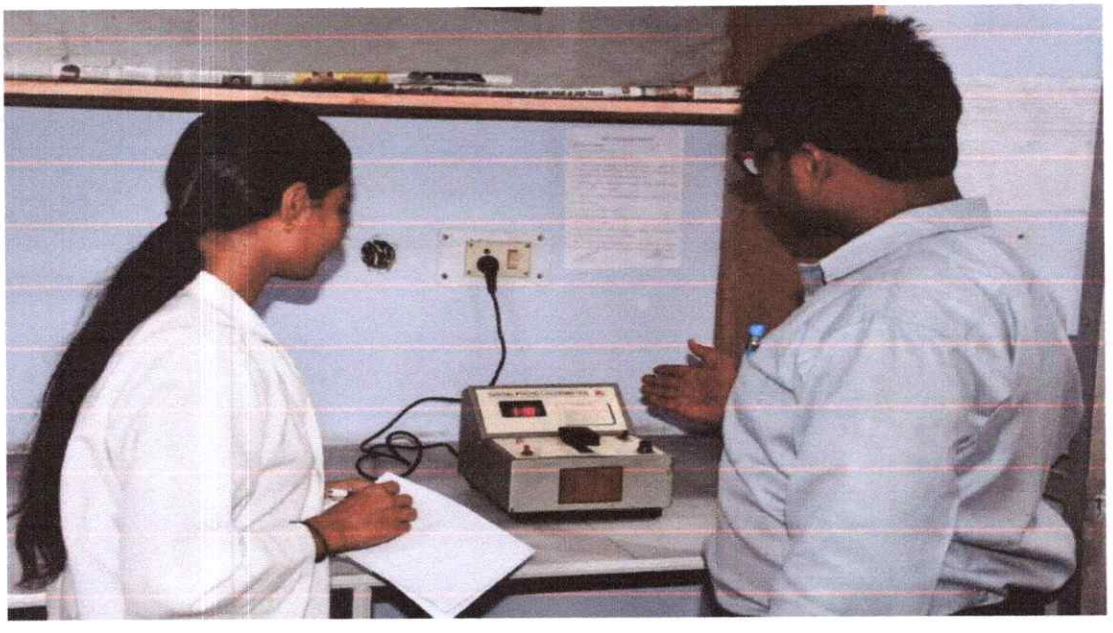
Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Microplate ELISA Reader

Description/Purpose: The make of Microplate ELISA Reader is Biogen. The microplate reader is a widely-used instrument that allows for many samples to be simultaneously measured, as if many miniscule experiments were being performed at the same time. This apparatus is used in conjunction with multiwell plates, like the 96 well plates. Regardless of the type of experiment run with the microplate reader, standard curves are often used to determine the value of experimental samples, as well as positive and negative controls. Multiplate ELISA Reader is used to quantify protein, gene expression and various metabolic processes such as reactive oxygen species and calcium flux.

Sanjeev Dwivedi
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Digital Photo Colorimeter



Description/Purpose: The make of Digital Photo Colorimeter is Ri. All High-Quality Optical Glass Filters are used ranges from 400, 480, 510, 520, 540, 580, and 620,700 (mm). Wavelength range is 400-700mm. It shows the resolution OD is 0.01 and shows the accuracy approximately 0.5% FS 1 Digit. Hermetically Sealed Imported Photodiode/ Photo Cell are used as detectors. Minimum sample volume is 1ml. It is utilized to assess the absorbance of wavelengths of light at a particular frequency or color by a sample. Colorimeter is widely used to measure the optical density or absorbance of a colored chemical to determine its concentration.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Biochemistry Analyzer

Description/Purpose: The make and model of Biochemistry Analyzer is Robert RIELE GmbH and Photometer 5010. It is a semi-automatic, single-beam filter photometer and operates at wavelength 340 nm and 380 nm – 730 nm. Photometric range is 0 – 2.5 A. Minimum 250 µl, typically 500 µl up to 2000 µl is sipping volume. Biochemistry analyzer is used in biochemistry laboratory and pathology laboratory. It is used to test cholesterol, sugar, enzyme, and protein in blood or urine sample.

REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Digital Balance

Description/Purpose: The make and model of Digital Balance is Aczet and CG203L. Digital Balances (Electronic balance) is an instrument used in the accurate measurement of weight of materials. Electronic balance is a significant instrument for the laboratories for precise measurement of chemicals which are used in various experiments. Some of the application areas for laboratory electronic balance are pharmaceutical research, scientific research, industrial, food research, educational research and others.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

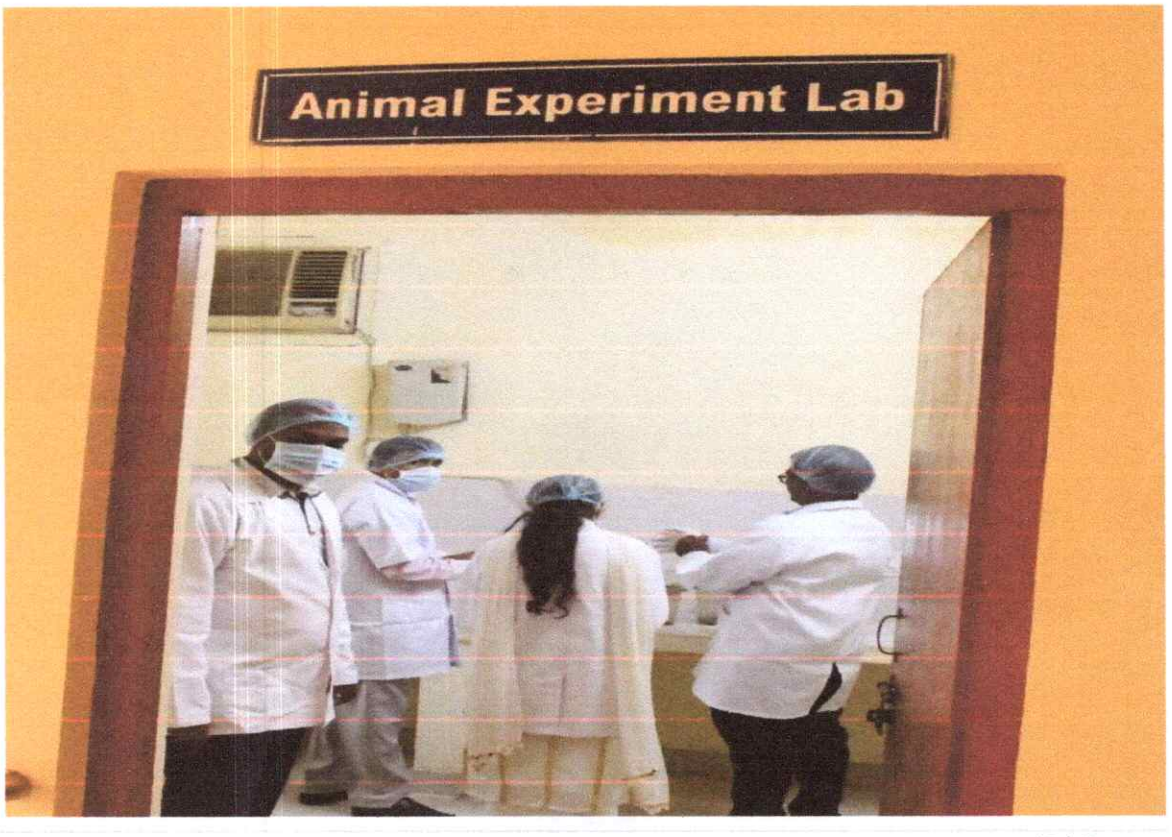
ANIMAL HOUSE FACILITY

Animal House Facility at IFTM University, Moradabad was established in 2004 to accomplish the requirements of various investigators from different departments of IFTM University. Animal House Facility is registered with the committee for the purpose of control and supervision of experiments on animals (CPCSEA), Ministry of Fisheries, Animal Husbandry and Dairying (MoFAH&D), Government of India, New Delhi. (Registration Number: 837/PO/ReBiBt/S/04/CPCSEA). All activities associated to laboratory animal research at Animal House Facility at IFTM University are performed as per the guidelines of CPCSEA, New Delhi as well as institutional guidelines under the supervision of Institutional Animal Ethics Committee (IAEC). Animal House Facility at IFTM University is located adjacent to building of School of Pharmaceutical Sciences in the University campus, away from noise and pollution, providing an ambient environment for animals. The facility is equipped for small animal experimentation with quarantine and experimental rooms for rodents and rabbits. The Animal house is conventional type with each species housed in individual rooms, in which the temperature, humidity, dark and light cycles are monitored with uninterrupted power and water supply. The animal species are being used for various research projects approved by the Institutional Animal Ethics Committee (IAEC). Animal House takes care of the breeding of animals, general health monitoring, supervision and monitoring of animal experiments as per CPCSEA guidelines. A number of students from different fields like Pharmacy, Biotechnology, Chemistry, Zoology, Microbiology, Agriculture, Natural Products etc. working in the animal house for their Master and Ph.D. research projects.

The CPCSEA has approved the animal house facility for small animals for-

- Research for education purpose
- Breeding for in-house use and
- Breeding for the purpose of trade

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.



Sanjeev Agarwal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Overview of the Institutional Animal Ethics Committee (IAEC)

In order to oversee and evaluate all aspects of the institution's animal care and use, the IFTM University Institutional Animal Ethics Committee (IAEC) has been constituted by the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA) Ministry of Fisheries, Animal Husbandry and Dairying (MoFAH&D), Govt. of India, New Delhi. Before research involving animal usage can be undertaken, the project will have to be reviewed and approved by the IAEC.

Responsibilities of the IAEC

The responsibilities of Institutional Animal Ethics Committee are as follows:

- IAEC reviews and approves all research proposals involving small laboratory animal experiments, which conform to the various guidelines for use of animals in research with an objective to assure quality maintenance and welfare of animals used in pre- clinical research.
- IAEC provides independent, competent and timely review of the ethics of proposed studies before the commencement of a study and regularly monitor the ongoing studies.
- Review periodically the university's animal facility for the proper maintenance of the facility and the welfare of the animals and update to the office of the CPCSEA.
- Suspend the research activity which does not adhere to guidelines for use of animals in research and take corrective action.
- Ensure that all personnel involved in animal care and use are appropriately trained and qualified to perform their duties and conduct the proposed activities.
- IAEC ensures that experiments shall be performed in every case by or under the supervision of a qualified person (Minimum qualification- Bachelor of Veterinary Science / Human Medicine or Post graduate in life sciences / Pharmaceutical sciences / Lab animal science) and under the responsibility of the Principal Investigator.
- The bio-waste disposal procedure is followed as per CPCSEA guidelines.

Proceedings of the IAEC

- The members of the IAEC meet at least twice a year or as and when the need arise to review the research proposals.
- All principal investigators intending to execute any teaching/research activities involving experimental animals have to submit the copies of their proposals by filling the Form-B as per CPSCEA guidelines as and when the call for proposals is advertised.

REGISTRAR
IFTM UNIVERSITY
MORADABAD.

- All proposals are sent to the members of IAEC, 15 days prior to the meeting. The PIs are asked to make a presentation for 10-15 minutes and after due review and scrutiny the IAEC members approve or suggest suitable modifications or ask to resubmit for the next meeting.
- In the case of Ph.D. scholars, the candidate has to be present in front of the IAEC members and the IAEC approval is given on the candidate name under the supervision of the respective guide.
- In the case of faculty submitting research proposals to be forwarded to funding agencies the same procedure has to be initiated by the PI.
- The inspection of the animal facility would be done by the nominee of CPSEA and the report is sent to CPSCEA with the necessary photos as per instruction of CPSEA for upgrade of facility and renewal of registration.

Prof. Incharge of Animal House: Dr. Asheesh Kumar Gupta

Composition of IAEC

Following are the members of IAEC

1.	Prof. Navneet Verma	Biological Scientist (Chairperson)
2.	Dr. Phool Chandra	Scientist Incharge of Animal House Facility (Member Secretary)
3.	Dr. Ankit Nagar	Veterinarian
4.	Dr. Tanzeel Ahmed	Scientist from different biological discipline
5.	Dr. Sushant Kumar Srivastava	Scientist from different biological discipline

Infrastructural Facilities:

- Office
- Breeding room
- Experimental room
- Separate quarantine room
- Separate Animal rooms
- Polycarbonate animal cages
- Autoclave for sterilization purpose
- Feed Storage room
- Washing Area

Sanjeev Dorai
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Key Research Areas:

Animal experiments are conducted in the following key research areas which helped the researchers to publish their findings in reputed scientific journals.

- CNS/Neurological Studies
- Diabetes Studies
- Animal behavioral studies
- Cardio vascular Studies
- Fertility Studies
- Anti-inflammatory and antioxidants studies
- Analgesic Studies
- Wound healing Studies
- Acute Toxicity Studies.
- Studies on various phyto-chemicals
- Studies on Synthetic agents/Drugs
- Screening of hepato-protective agents etc.

Important Link:

https://cpcsea.nic.in/Content/54_1_ACTSANDRULES.aspx

Rules and Guidelines:

The Prevention of Cruelty to Animals Act1960. http://awbi.in/policy_acts_rules.html

The breeding of and experiments on animals (control and supervision) rules 1998 https://cpcsea.nic.in/WriteReadData/userfiles/file/1998.pdf

The breeding of and experiments on animals (control and supervision) amendment rules 2001 https://cpcsea.nic.in/WriteReadData/userfiles/file/2001.pdf

The breeding of and experiments on animals (control and supervision) amendment rules 2006 https://cpcsea.nic.in/WriteReadData/userfiles/file/2006.pdf

Environment protection https://moef.gov.in/en/rules-and-regulations/environment-protection/#

Forms:

Revised Form B for permission for Animal Experiments

https://cpcsea.nic.in/WriteReadData/userfiles/file/New%20Form%20BFeb_2022.pdf

Revised Form D for record of animal acquired and experiments performed

https://cpcsea.nic.in/WriteReadData/userfiles/file/From%20D%20Revised.pdf

Record of animal sold to the establishment by traders form E

https://cpcsea.nic.in/WriteReadData/userfiles/file/Form%20E.pdf

Sanjeev Bhatnagar
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Museum

The Museum of IFTM University is situated in Faculty of Pharmacy. Museum has different sections. It was established in the year 2000. It has portraits of different scientists and inventors. It has well-labeled containers and cartons, and also the samples of different dosage forms, like syrups, suspensions, liquids, tablets, capsules, suppositories, eye drops, ampoules and surgical etc. Museum also displays various types of laboratories equipments for detailed study of dispensing and packaging of pharmaceutical products, all items are arranged systematically.

Museum In-charge
Mr. Swatantr Bahadur Singh
Assistant Professor
School of Pharmaceutical Sciences

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Business Lab

About Business Lab

A dedicated Business Lab for the benefit of staff and students has been initiated in main building to develop global competency and keep them updated with recent practices in the business world. Business Lab provides practical exposure of the processes and procedures followed by organizations in conducting commercial practices. The lab provides practical orientation to students by linking the subject syllabi with practical training in the lab. The business lab also offer internet resources that help project and research work. Trained and experienced teaching staff assist the students with point-of-use instructions, help in fulfilling the thirst for knowledge. The business lab provides an environment that is both stimulating and relaxing for academic exercise.

Objectives

- ✓ To create more interest among the students on the subject
- ✓ To prepare the students to fulfill the requirements of industry and business
- ✓ To equip the students with practical knowledge and develop entrepreneurial abilities tostart own business or to get employment in the competitive job market
- ✓ This Business Lab is used for **BCOM, BCOM (Honors), MCOM, BBA, MBA, BHMCT & MTTM** Students for their overall development.
- ✓ The Business Lab is located on the First Floor.

Features of Business Lab

- ✓ With the help of Wi-Fi and laptop, real-time experiences, explanations, and interpretations of livetrading of security, market fluctuations, and current market price can be analyzed by the students to get a feel of the theoretical concepts they study. Simulations and modern-day case study analysis are the need of the hour for any upcoming entrepreneurs and potential employees.
- ✓ School of Business Management has a well thought and well-equipped business lab which facilitates students to conduct mock sessions, group discussions, and other commerce and management related activities aiming to provide a launch-pad to meet the challenges in the evolvingand highly competitive business world globally.

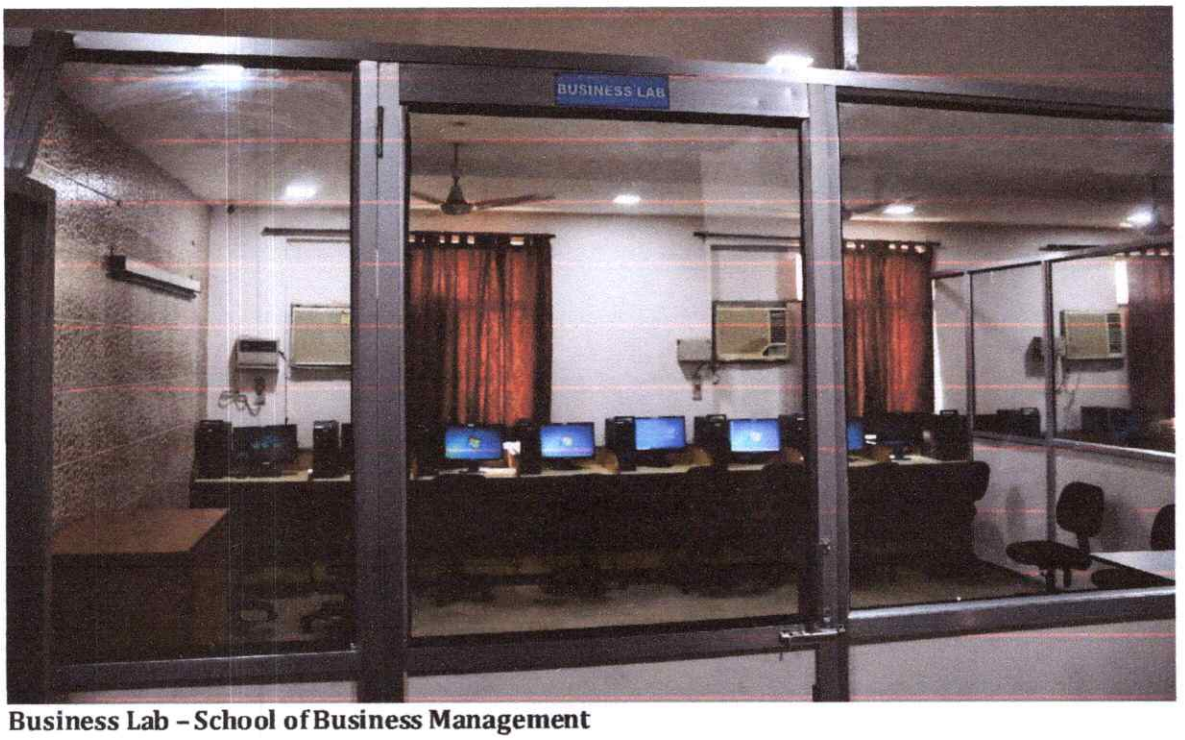
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

The business lab plays an important role to improve reasoning and analytical abilities of the students through conduction of practical tests as well as to make the students aware of availability and applicability of business documents for their day-to-day routine purposes.

Specific Features

1. 8 PC with LCD, keyboard and Mouse along with Online UPS, Whiteboard and CCTVCamera.
2. Software: Windows 7 & Windows 8, MS Office 2010, Chrome Reader, Tally ERP 9.

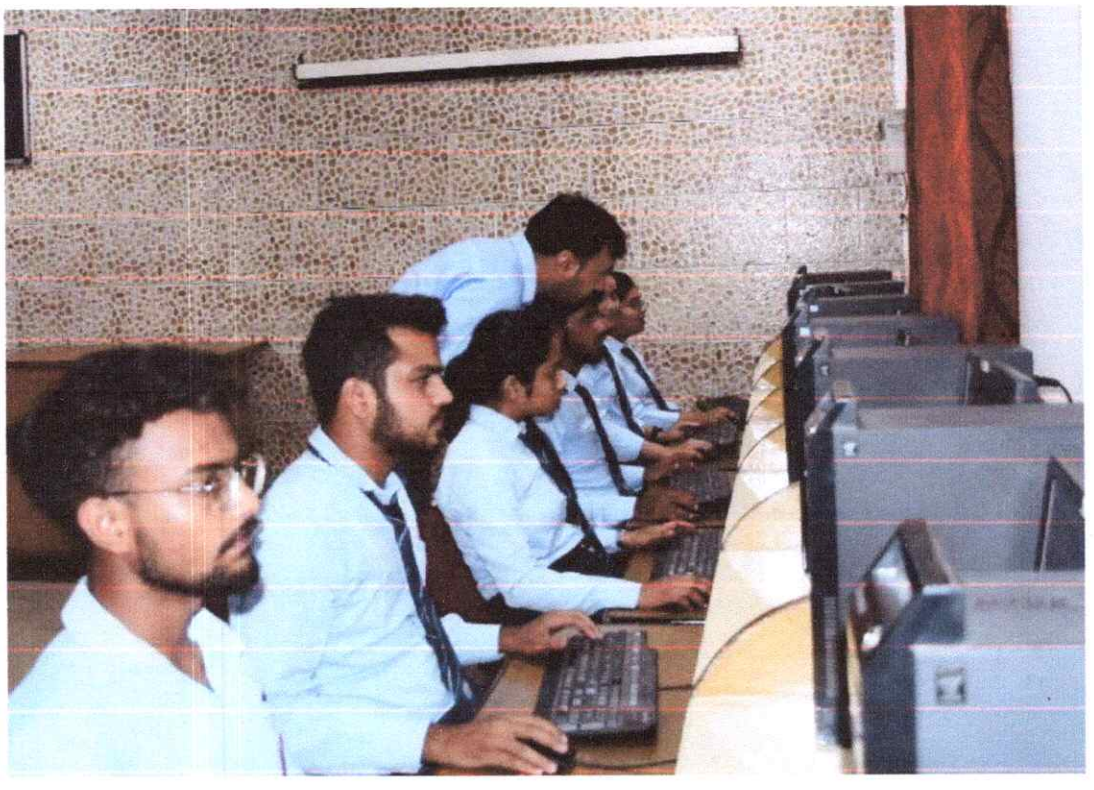
Business Lab Faculty In-charge: Dr. Himanshu Gupta, School of Business Management, IFTM University.



Business Lab – School of Business Management

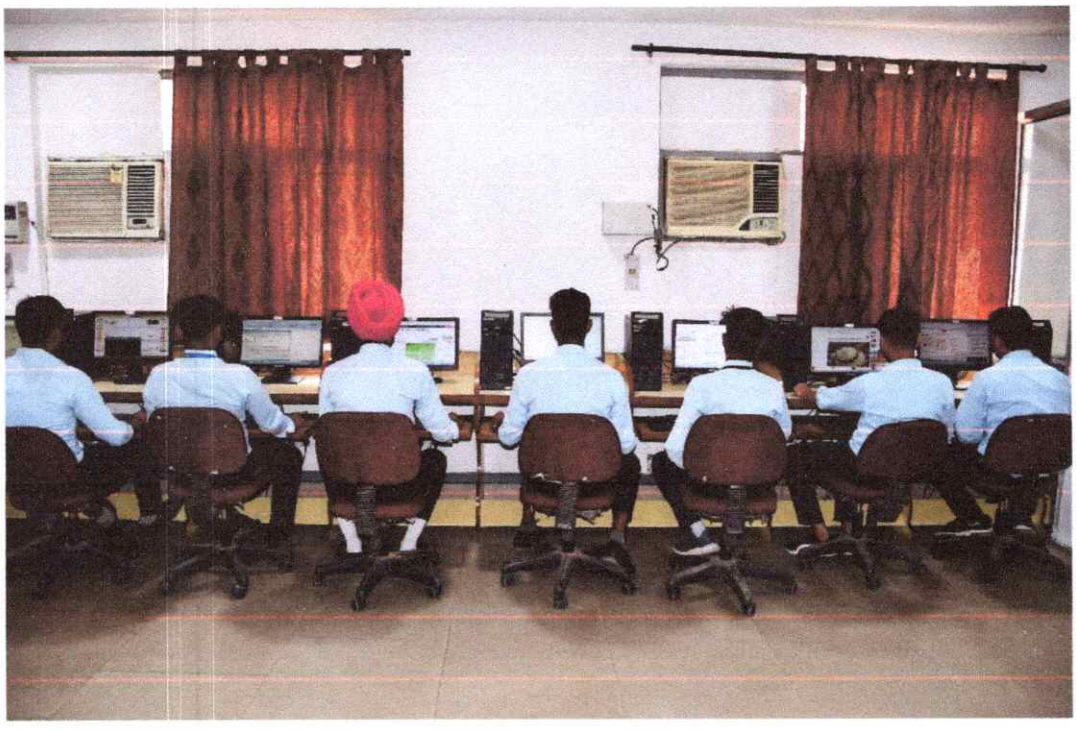
Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Business Lab equipped with systems for business related analysis

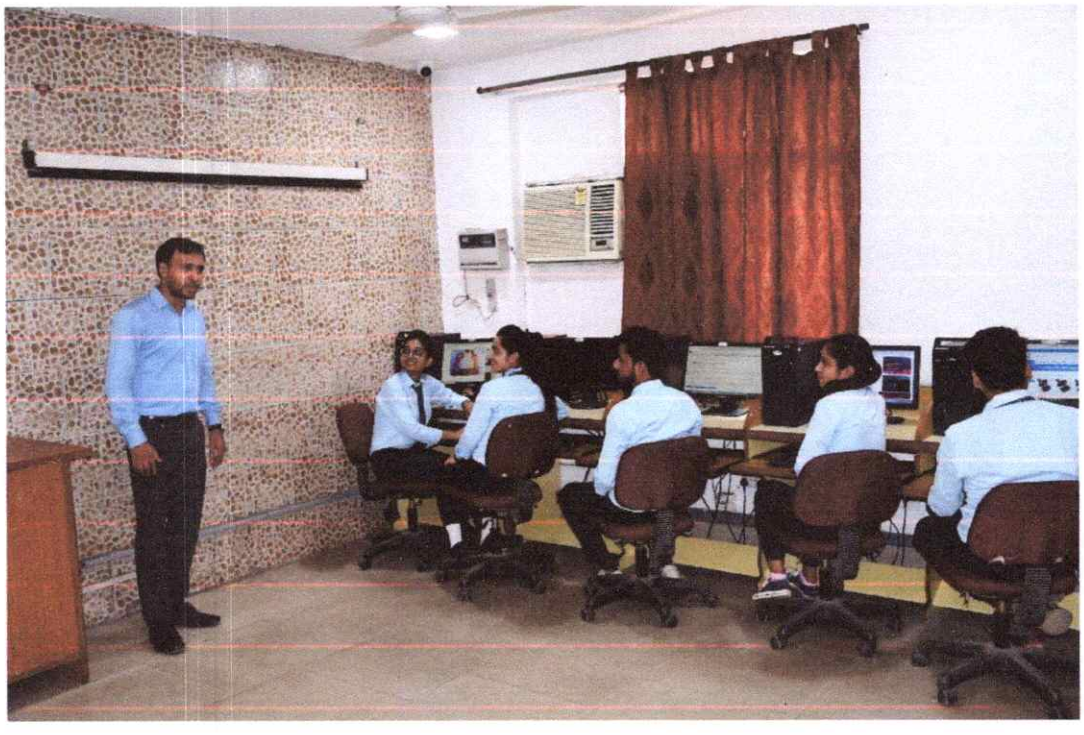


Interaction of students and faculty for resolving concerns and queries

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.



Students utilising the facilities available at the business lab



Discussion related to business affairs being carried out in the business lab

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Moot Court

About Moot Court-

A moot court is a replica of real court proceedings. The purpose of moot court competitions is to make students aware of the court proceedings related to disputes between parties. These competitions are organised mostly in law schools for students who wish to start their careers as **Lawyers**, Judges and Arbitrators. This practice helps in the development of legal skills, research acumen and speaking skills. The process of mooting is not the same as public speaking or debating, moot courts are more interactive in nature and there is cross-questioning.

A Moot Court Competition presents a hypothetical problem. The problem might also be based on a real-life case. The students are required to understand the given problem accurately and prepare issues with it. Later on, once the facts are analysed, and issues are framed, they should focus on the most adequately applicable laws about the presented facts. After this, students must prepare from both sides; that is as plaintiff and as defendant.

Features of Moot Court

Moot Court Room was established in 2012-13. Its area is near about 35'x34' and sitting capacity is around 60 students. Court room is equipped with Projector and sound system.

Sanjeev Agarwal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Hon'ble Judge discuss about legal issues of the case.

Pleaders present their case and Examination of Witness

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Open discussion in court with relation to the case

Both pleaders present their submission to the Hon'ble Court.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Herbal Garden/ Medicinal Garden

The beautiful herbal garden of IFTM University campus was established in year 2000. It is situated adjacent to the building of School of Pharmaceutical Sciences. Its main purpose is to carry out botanical work, serves an important tool for teaching and research. It also continues its long tradition of fostering greenery on campus and to stimulate experiments on medicinal plants. This herbal garden also contains plants of many sorts with therapeutic properties. Students of various disciplines in the UG, PG, and Ph.D. programme are encouraged to use this garden to identify species and learn about morphological characteristics of medicinal plants. Students usually collect plant parts for their projects and then produce extracts and separate the essential phytoconstituents that have medicinal properties. Plant collections are also used by students to prepare herbarium specimens. Presently medicinal and aromatic plants are becoming increasingly economically important due to growing demand for herbal products to cure different diseases. In view of popularizing and propagating our ancient traditional science i.e., Ayurveda, the herbal garden serves as a good demonstration place for students training as well as for purposes of research of medicinal plants. It supplies crude raw material and fresh plant specimens essential to conduct research on natural goods.

The herbal garden contains plants like Shatavari, Amla, Aloe Vera, Turmeric, Tulsi, Kadi Patta, Dhatura, Vinca etc, and provides freshness and holistic feelings in the surrounding environment. In University landscape approximate 110 species of plants are found.

To access this facility, contact:

Herbal Garden In-charge

Dr. Sukirti Upadhyay

Professor

School of Pharmaceutical Sciences, IFTM University, Moradabad (U.P)

E Mail: sukriti_upadhyay@iftmuniversity.ac.in; Ph. No: 8077304554

Taxonomist

Dr. Ashok Kumar

Assistant Professor

School of Sciences, IFTM University, Moradabad (U.P)

E Mail:ashokkumar@iftmuniversity.ac.in; Ph.No:8279818760

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Gardner

Mr. Pappu

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Open Air Theatre

Open Air Theatre, circular in shape, is situated centrally in the campus of the University and providing a boost to the co/extra-curricular activities and other institute gatherings. The generous space and its unique design make it the preferred venue for organizing cultural programs, annual functions, youth festivals, convocation, student presentations and competitions.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Other Facilities

Dissolution Test Apparatus

Description/Purpose: The make and model of Dissolution Test Apparatus is NAVYUG and NU-263.Dissolution Test Apparatus is designed to conduct dissolution tests, as per IP/BP/USP Standards. It is available in 8 stations. Programmable stirrer is connected with 25 - 200 RPM. Soft touch membrane type keys and up to 200 samples memory storage is present. The applied temperature range between 30 - 50°C. Molded water bath with non-corrosive Tank plate. It is used to determine compliance with the *dissolution* requirements for solid dosage forms administered orally.

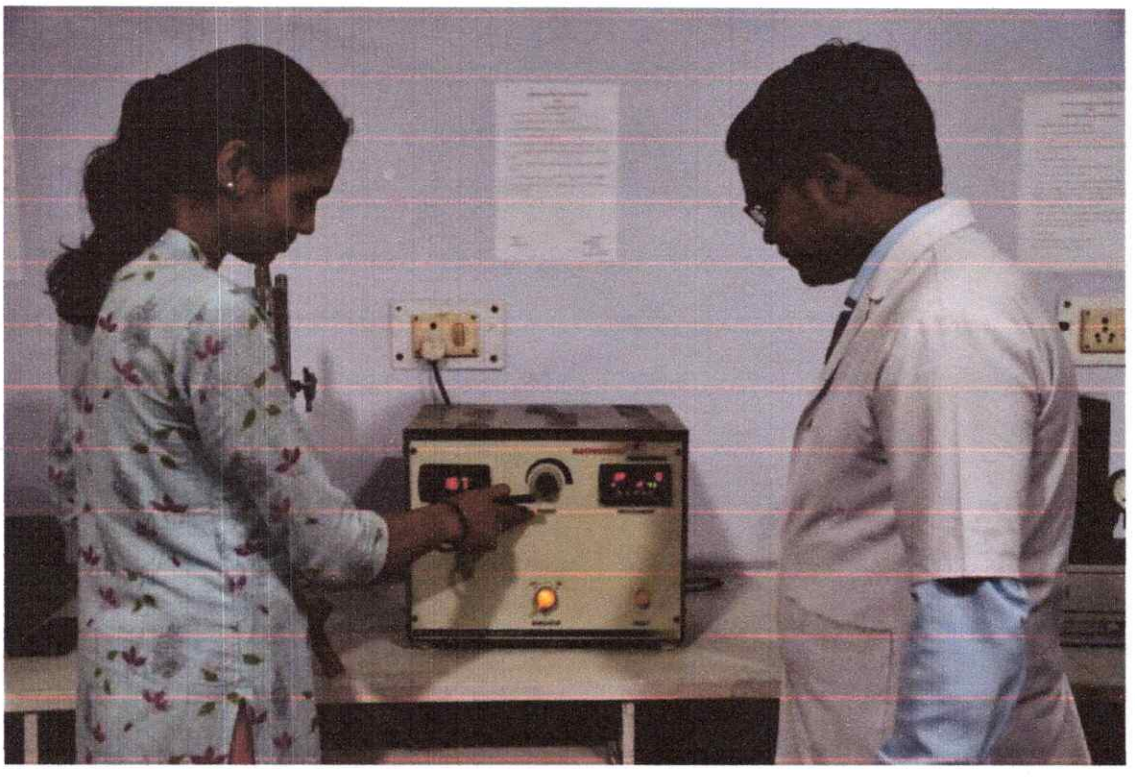
Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Laminar Air Flow

Description/Purpose: Enclosed cabinet system is made up of stainless steel. Cabinet provides an enclosed system of insulated air throughout the workstation. Thus, it protects the inner sterile air from the outside environment. Users can open the front door manually and adjust its opening height as needed. It provides a space to perform different experiments or operations. It is also made of stainless steel. It refers to the prefilter or primary filter that primarily sucks the room air. It traps the particulates from the room air of size 5 microns or higher. It draws the prefiltered air from the filter pad and throws it towards the high-efficiency particulate air filter. HEPA filter is a secondary or final filter that offers 99.9% efficiency to eliminate 0.3-micron particulates. UV germicidal lamp sterilizes the chamber, as well as the contents like Petri plates, test tubes, culture media etc., before the experiment. Fluorescent lamp provides proper light during the operation. Air cleanliness is Class 100. Air velocity is 0.45m/s to 0.65 m/s. Generally used in laboratories to form a sterilized environment for processes such as plant tissue culture. Various laboratory procedures such as media plate preparation, the culture of microorganisms, etc., are carried out inside the laminar air flow.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Ultrasonicator



Description/Purpose: The make of Ultrasonicator is Modern Scientific. Integrated temperature control to prevent overheating of the sample. Adjustable Pulse On and Off time mode to reduce the heat rise in the temperature sensitive samples. Parameters like total time, Pulse On Time, Pulse Off Time can be adjusted. It is used to disintegrate cells, bacteria, spores or tissue and extract DNA/RNA.

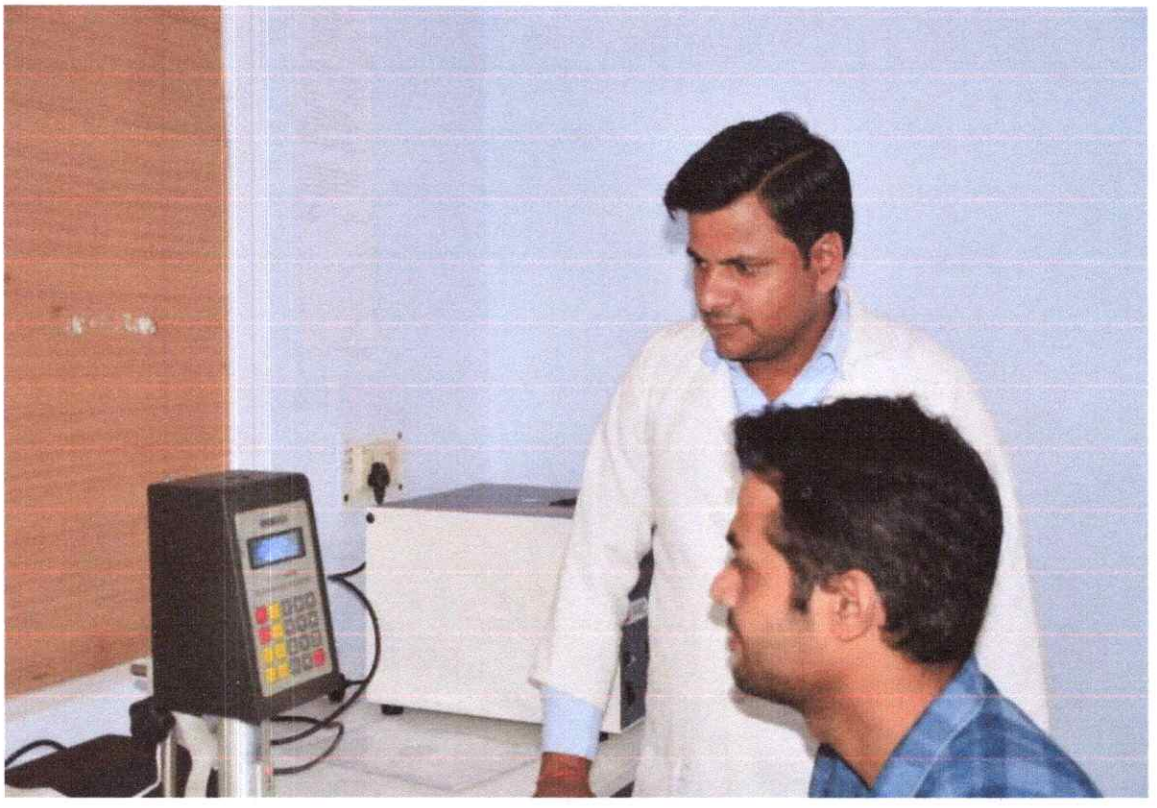
Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Conductivity Meter

Description/Purpose: The make of Conductivity Meter is Toshcon. It determines the amount of electric current or conductivity in a solution. The conductivity range of it 0.001 uS/cm to 1000 mS/cm or greater. It provides high reproductively. It is used to measure the level of conductivity in solutions and evaluate the quality of water.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

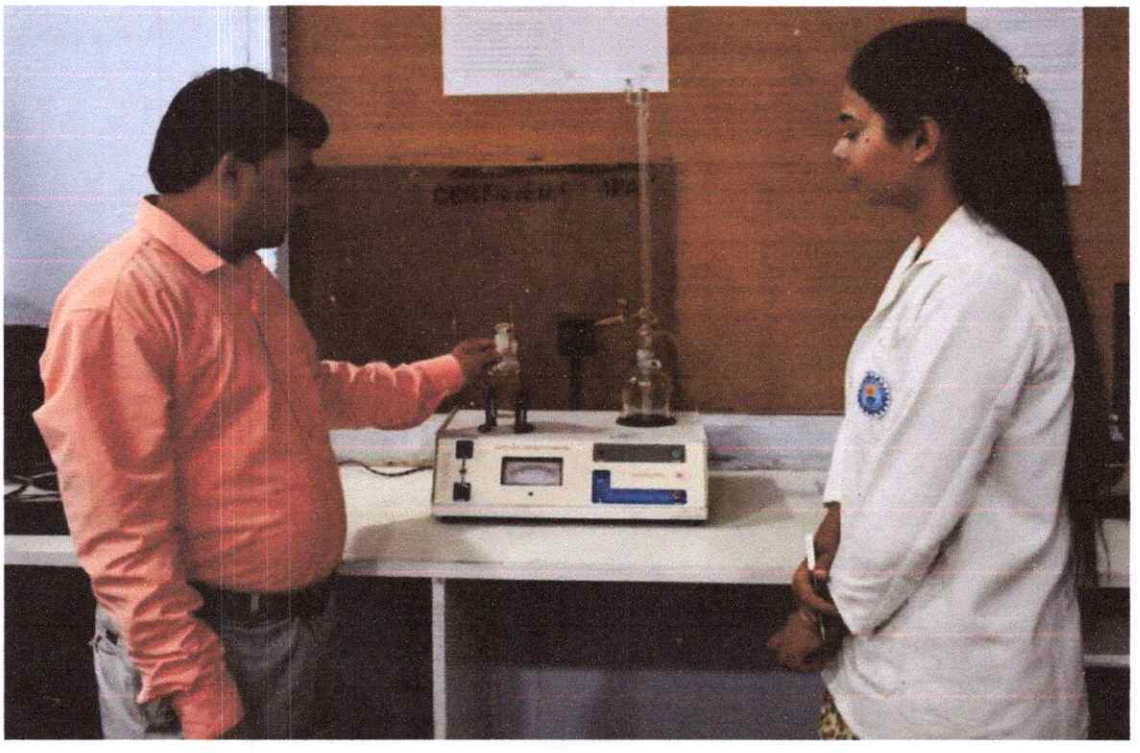
Brookfield Viscometer



Description/Purpose: The make and model of Brookfield Viscometer is Modern Scientific and Dvp 202ay.Continuous torque sensing capability is the main feature. Torque measurement accuracy is 1% of full scale range and repeatability is 0.2%. It is compatible with all Brookfield accessories. It is very easy speed adjustment and on/off control. It is used to measure viscosity and rheological properties.

REGISTRAR
IFTM UNIVERSITY
MORADABAD.

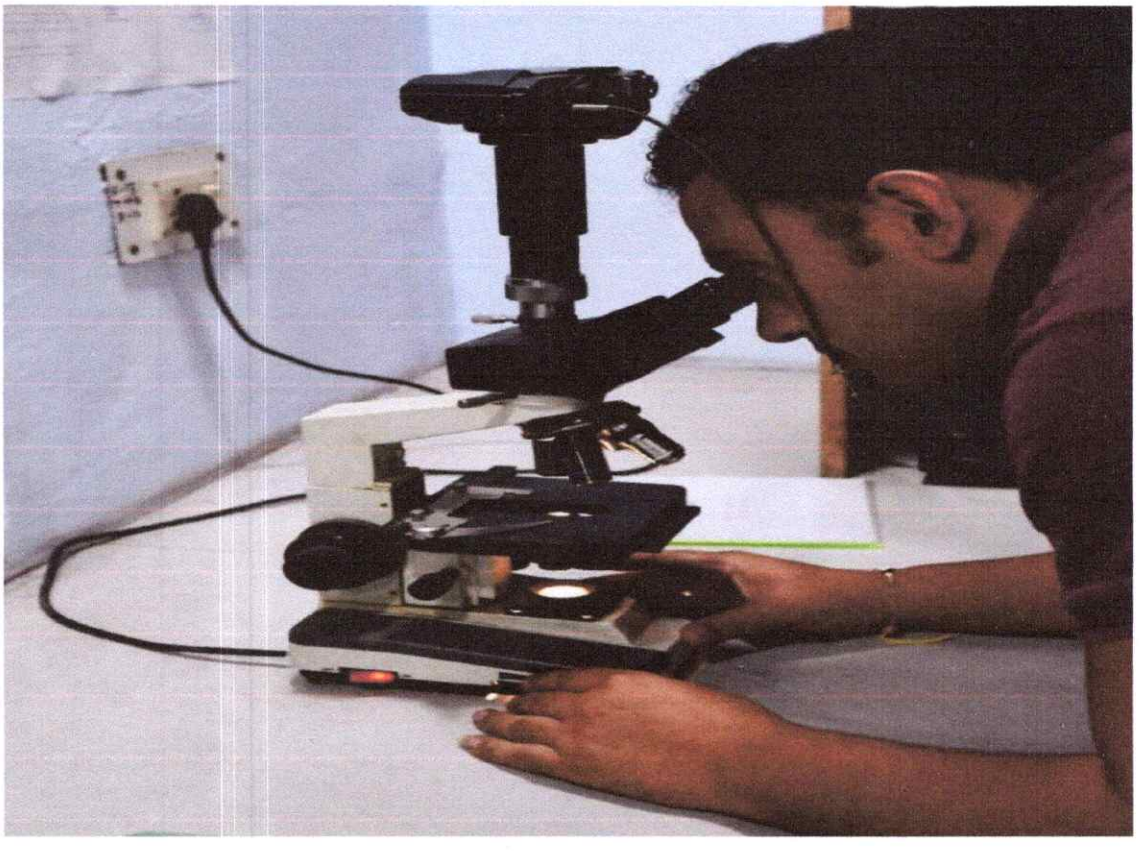
Auto Karl Fischer Titrimeter



Description/Purpose: The make of Auto Karl Fischer Titrimeter is Ri. In this apparatus separate control & titration units are present. Auto Zero Burette and Adjustable Timer are attached. Auto Karl Fischer Titrimeter designed to carry out Karl Fischer Titrations for accurate determination of moisture content in various samples.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

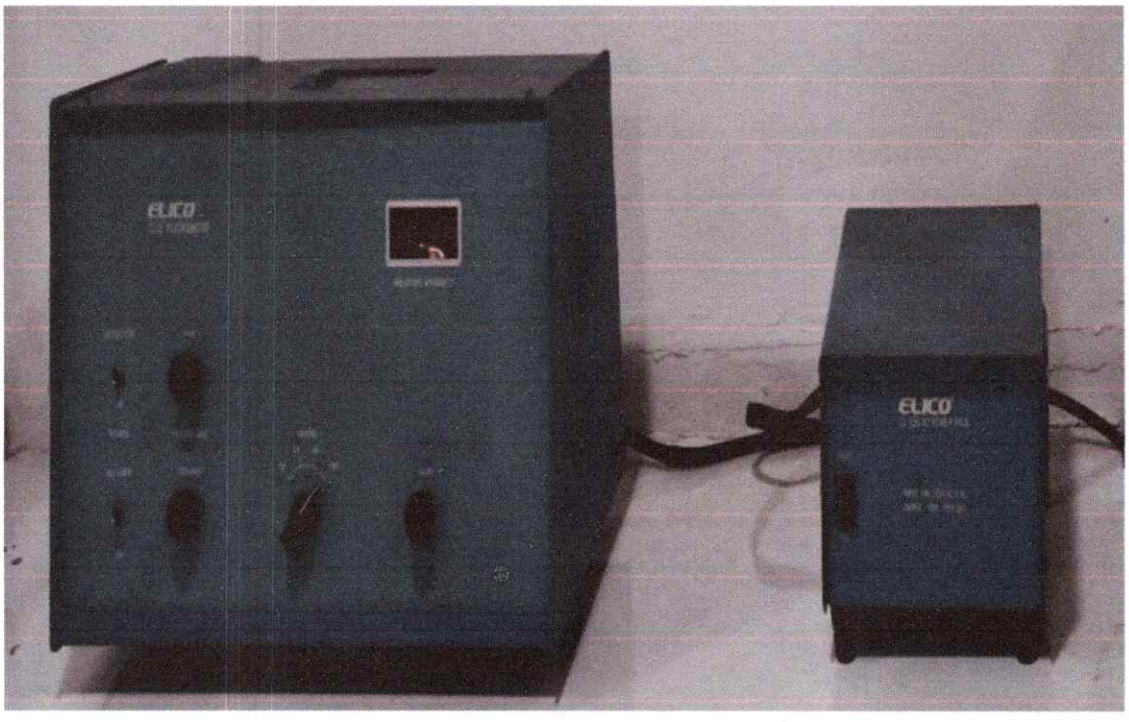
Optical Microscope



Description/Purpose: The make and model of Optical Microscope is Goko and PM-1.Eyepiece contains 2 or more lenses that focus the image. Usually has a 10x magnification. Turret holds 2 or more objective lenses and can be rotated easily to change magnification power, it is best to start the magnification at the lowest and then work your way upwards. One or more objective lens in a cylindrical shaped tube that collect light. The shortest lens has the lowest level of magnification, the longest one is the lens that has the greatest magnification power. The objective lenses usually have the magnification power 4x, 10x and 40x. A light source used in place of a mirror. Most microscopes do allow manual light adjustment via a wheel located near the base. Different neutral-density filters from around 85 % to 0.01 % transmittance are available. It is used in microbiology, microelectronics, nanophysics, biotechnology and pharmaceutical research. It is also useful to test biological samples for medical diagnoses.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Fluorimeter



Description/Purpose: The make and model of Fluorimeter is ELICO and CL53. 150 Watt Xenon Arc Lamp is used as light source. Dual monochromator is attached. Only 5 ml of sample needed. High sensitive photo multiplier tube (PMT) is applied as a detector. Spectral Range of this is 200- 900 nm. It gives the accurate results with ± 2 nm. It is used for accurate quantity of biological fragment such as nucleic acids and proteins in microliter samples.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Fluorescence Microscope

Description/Purpose The make and model of Fluorescence is COSLAB and HL-23.All EVOS cell imaging devices are unified by their exceptional image quality. Take crisp, brilliant, publication-quality pictures in a matter of clicks. Fast image capture allows the M7000 to scan a 96-well plate in 3 fluorescence channels in less than 5 minutes when using automated multiwell screening. It is used to identify structures in fixed and live biological samples and in diagnostic microbiology.

REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Autoclave

Description/Purpose: The make of Autoclave is OPBSW. An autoclave (steam sterilizer) is a device that offers a physical process of sterilization by killing bacteria, viruses and even spores present in the material put inside of the vessel using steam under pressure. Efficient air and moisture removal by vacuum pump is possible. Efficient heating is produced by steam from steam generator. It is used to decontaminate specific biological waste and sterilize media, instruments, and labwares.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

CO_2 Incubator

Description/Purpose: The make of CO_2 Incubator is Khera instruments. Features common to incubator include built-in alarms, adjustable door heaters, stack ability, and interior lighting. CO_2 incubator is popular piece of lab equipment that stimulates the growth of cells or tissue inside the unit. Laboratory incubator keep cell or tissue culture in stable temperatures of 37°C, a CO_2 level of 5%, a constant ph value of 7.2-7.4, and a relative humidity saturation level of 95%. PID Control System is used as micro-computer chip. PID control systems feature touch keys to make it easier to control the settings of the unit. CO_2 incubator makes use of advanced ultrasonic sensors to detect gas concentration within the unit. CO_2 incubator will also have IR sensors for CO_2 detection and control. It is used for prevention of contaminants and treating the sample in biotechnical laboratories.

REGISTRAR
IFTM UNIVERSITY
MORADABAD.

BOD Incubator

Description/Purpose: The make of BOD incubator is The Modern Scientific. BOD incubator is the most adaptable and reliable low-temperature incubator helps to maintain the temperature that is essential for Biological Oxygen Demand/Biochemical Oxygen Demand (BOD) determination. It is highly adaptable in nature and power efficient. It is used to determine levels of organic matter and nitrogen in waste water samples and maintain temperature for test tissue culture growth, storage of bacterial cultures and incubation where high degree of constant temperature accuracy is required.

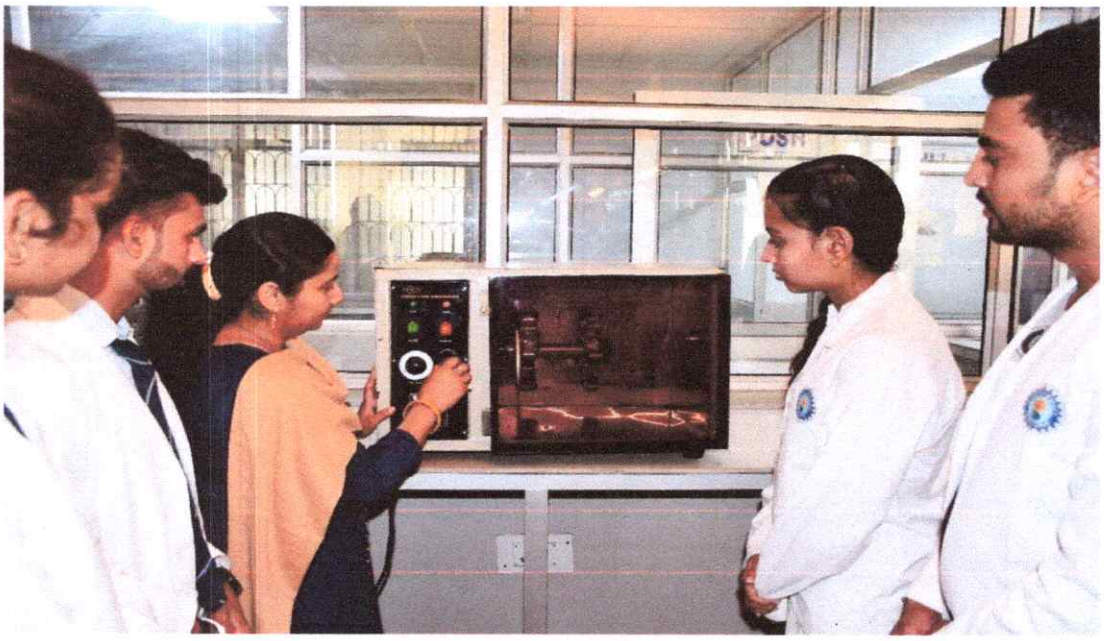
Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Tray Dryer

Description/Purpose: The make of Tray Dryer is MSI. Tray Dryer is designed for uniform circulation of hot air in the drying chamber. It is double walled and easy accessibility of internals for hygienic cleaning. Each batch of the materials can be handled as a separate entity in tray dryer and temperature controlled by thermostat provided with the unit. Fresh air inlet with filter and outlet also with damper control valve are present. Electrical control panel mounted on the upper body and trays are fabricated of aluminum. Inside surface is painted with heat resistant aluminum paint and outside with hammer tone. Generally used for the drying of substances which are hygroscopic and heat sensitive.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Hybridization Shaker



Description/Purpose: The make and model of hybridization chamber is MSI having the Bottles capacity- maximum 8; Temperature range: 70 °C; Rotor speed- 6-50 rpm; Shaker capacity- 8 kg, dimension- 350x250x425 weight- 33 kg. It is ideal for sterile laboratory testing and where the integrity of the sample must be preserved while heating it to the exact temperature for the right period of time. This Chamber is a specially-designed device that holds an Agilent microarray, hybridization reagents, and labeled samples. The hybridization chamber combined with the oven allows efficient mixing of the sample during hybridization allowing more consistent results within different experiments.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

IFTM UNIVERSITY

(Established under UP Govt. Act No. 24 of 2010 and section 2(f) of UGC Act 1956)
Lodhipur Rajput, Delhi Road, Moradabad- 244102, U.P.
Telephone: 0591-2360817, 2360818 Email: info@iftmuniversity.ac.in Website: www.iftmuniversity.ac.in

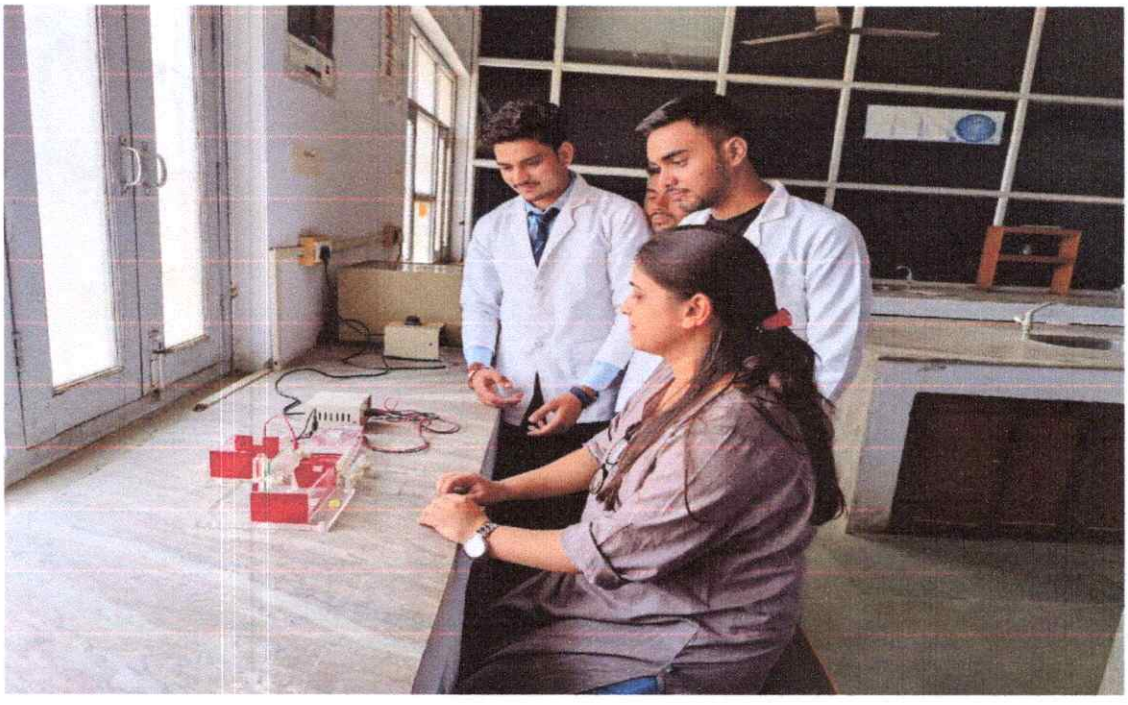
Plant Growth Chamber

Description/Purpose: The make and model of Plant growth chamber is MSI having the shape Square; Temperature Range: -5 to 50 °C; Power (W): 1000; Capacity (l): 100000 L; Humidity (%): 95 %; Voltage (V): 230 V. It provides special type of to perform plant growth experiments inside laboratory. The aim of a plant growth chamber is to create such atmospheric conditions responsible for effective plant germination and growth. In such chambers or cabinets, humidity, temperature and lights are controlled in such a way that you can create desired environment essential for examining growth of a particular plant. Plant growth chambers are widely used in agriculture fields in order to do research on crop productivity. Plant related agriculture research and development are the prime applications of these units; plant breeding, plant nutrition, photosynthesis are some of areas where plant growth chambers play an important role.

Sanjeev Agarwal

REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Gel Electrophoresis



Description/Purpose: The make and model of Gel electrophoresis is Biogen having the specification Vertical gel apparatus: 10 – 12 cm (Length) x 8 – 10 (Breadth) x 8 - 12 cm (Height), 5-10 samples, glass plate (10 x10 cm), comb capacity of 35µl -50µl and gel caster. It is used to separate mixtures of DNA, RNA, or proteins according to molecular size. In gel electrophoresis, the molecules to be separated are pushed by an electrical field through a gel that contains small pores. The molecules travel through the pores in the gel at a speed that is inversely related to their lengths. The resulting bands can then be visualized using ultraviolet (UV) light.

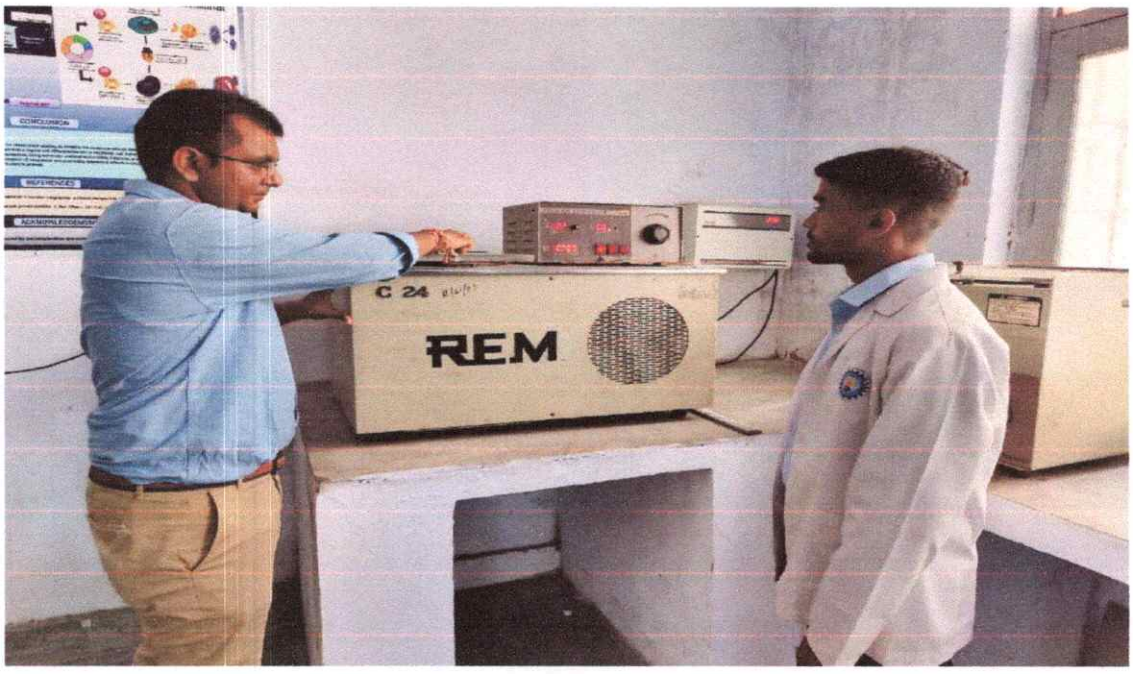
Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Fermenter

Description/Purpose: The make and model of Fermenter is MSI having the capacity – 3 Liter, fermented body relay unit- 0-40 °C, Magnetic bar- 55 mm, Screw cap -25, Glass tube diameter - 14*12 mm. It is a closed vessel with adequate arrangement for aeration, agitation, temperature and pH control, and drain or overflow vent to remove the waste biomass of cultured microorganisms along-with their products. It is used for commercial production in fermentation industries and is a device in which a substrate of low value is utilized by living cells or enzymes to generate a product of higher value. Fermenters are extensively used for food processing, fermentation, waste treatment, etc.

REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Cooling Centrifuge



Description/Purpose: The make and model of cooling centrifuge is Remi having the specification-speed up to 30,000rpm in 2ml centrifuge tubes; Cooling from -20°C to +20°C; Power supply- 220-240 volt; Automatic error detection and rotor change with time. It is laboratory equipment used for the separation of microliter temperature-sensitive heterogeneous mixtures or samples. This device works by spinning the samples loaded in a rotor at high speed. It undergoes a centrifugation process which involves the use of centrifugal force for the separation of particles or macromolecules.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Deep Freezer

Description/Purpose: The make and model of Deep freezer is Remi having the Dimension- 900 x 850 x 735 mm; Temperature- -10 to -20 °C; Capacity-210 liter; Display- LED; Voltage- 190-254. It is used to create highly effective cooling consistently inside the cabinet. The air cooling compressors of the freezer is designed with aerodynamic fans and washable condense filters which keep the internal environment free from dirt and dust. Deep Freezer isa equipment that is used to preserve and store food products, medical equipment, blood samples, medicines and injections, etc. for a long period of time.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Muffle Furnace

Description/Purpose: The make and model of Muffle is MSI having the specification- Maximum Operating Temperatures- 1200°C to 1800°C; Chamber Dimensions up to 36" x 36" x 36"; 30 Segment PID Temperature Controller. It allows rapid high-temperature heating, recovery, and cooling in self-contained, energy-efficient cabinets. A muffle furnace separates the object to be heated from all byproducts of combustion from the heat source. In modern electrical furnaces, a radiation or convection energy applies heat to a chamber using a high-temperature heating coil inside insulated material. The insulating material effectively acts as a muffle, preventing heat from escaping.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Moisture Analyzer

Description/Purpose: The make and model of moisture analyzer is MSI having the specification-Moisture chamber – Input voltage – 220 voltz, 50 Hz, Height- 14in., Width- 12 in., Depth- 14in., Weight- 12 kg, Capacity with installed wire – 5-6. It is a device that determines the moisture content with the loss on drying method and consists of a weighing and halogen heating unit. It suits the needs of quality control and production in food, pharmaceuticals, chemical and other industries.

Sanjeev Agrawal

REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Vacuum Oven

Description/Purpose: The make and model of vacuum oven is Biogen having the specification-chamber design - Rectangular; Capacity- 45 liter; Vacuum range- 760 mm Hg Temperature range- 10-200 °C; voltage- 220 volt. It is special types of oven, which create a vacuum environment that has a lower boiling point, allowing drying to be done at lower temperature. The vacuum oven enables drying treatment at lower temperature for specimens that cannot be treated by conventional high temperature drying. This is suitable for the drying of the heat sensitive materials. The main advantage of vacuum oven is that it helps to accelerate the rate of drying. Similarly, the process of drying can be done at a lower temperature. This is especially suitable for the heat sensitive materials.

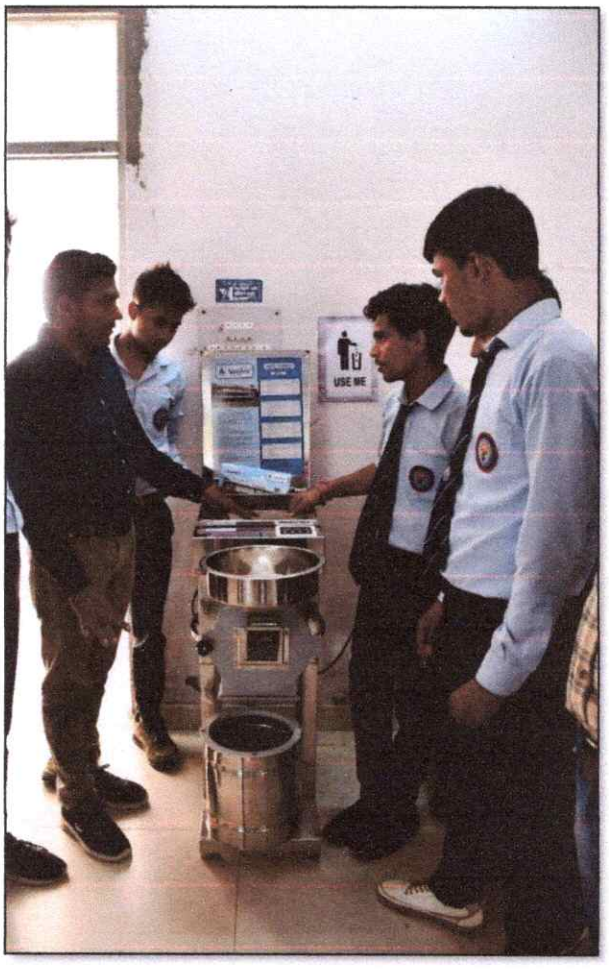
Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Microwave Oven

Description/Purpose: The make and model of Microwave ovens is IFB having the specification- Power consumption- 230-50 hz; Oven capacity- 17 liter; Net weight- 10.5 kg; Operation frequency- 2450 Mhz. It uses electromagnetic radiation similar to radio waves to heat food and in cooking. Microwaves are reflected by metal; they pass through glass, paper, plastic, and similar materials; and they are absorbed by foods. Microwaves used for general processing may be used for heating laboratory samples, preparing solutions, drying, and heating samples or products. The range the microwave can be used for industrial, research, quality control processing is almost unlimited.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Flour Mill (JOSH PLUS-3HP-SS-F)



Description/Purpose: The flour mill is useful in grinding not just wheat but also other grains like maize, rice, spices and nuts. It helps to save a lot of time and to grind wheat finely or coarselyaccording to individual requirements. Packed flour contains preservatives and may not contain essential nutrients but with the help of grinding mills, you can grind fresh flour richin nutrients and vitamins. The main purpose of the flour mill is to check and evaluate the quality of incoming wheat and to make sure that the produced flour varieties are consistently suitable for their customers' purposes.

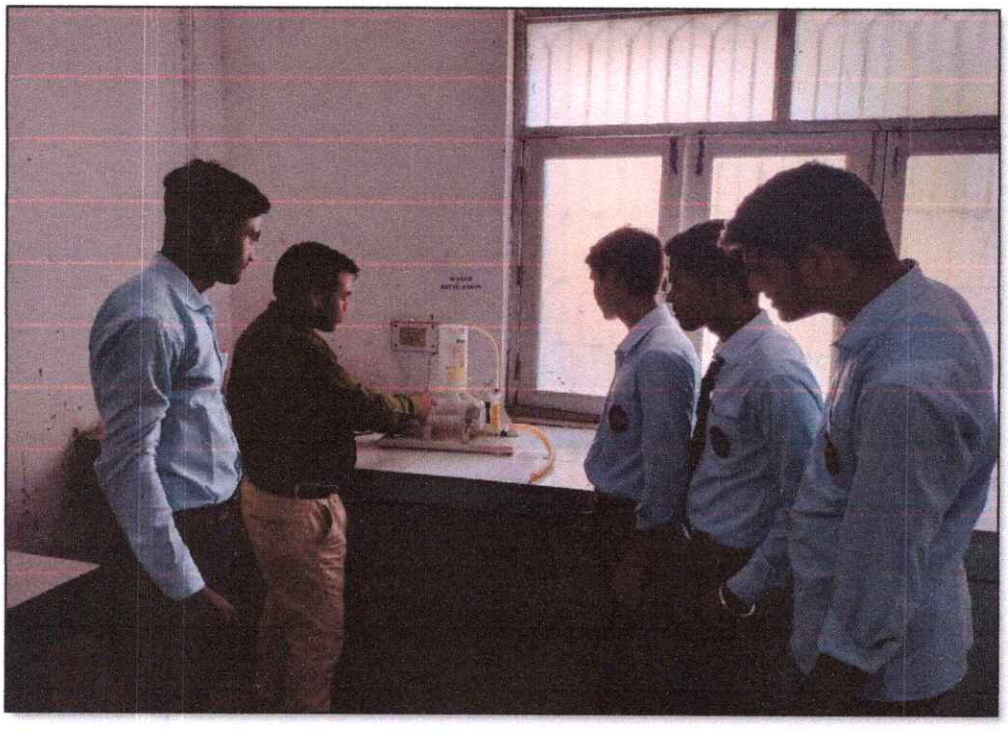
Sanjeev Agarwal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Hot Air Oven

Description/Purpose: A hot air oven is a laboratory instrument that uses dry heat to sterilize laboratory equipment and other materials. The equipments which cannot be wet or material that will not melt, catch fire, or change form when exposed to high temperatures are sterilized by using the dry heat sterilization method. We can sterilize Glassware (like petri dishes, flasks, pipettes, and test tubes), Powder (like starch, zinc oxide, and sulfadiazine), Materials that contain oils, Metal equipment (like scalpels, scissors, and blades) by using hot air oven. It is also used to destroy microorganisms and bacterial spores; a hot air oven provides extremely high temperatures over several hours.

Sanjee Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Water Distillation Unit



Description/Purpose: A water distiller is a machine that purifies water by removing more than 99.9% of contaminants, including chemicals, heavy metals, microorganisms and sediment. A water distiller removes a broad range of contaminants, including organic compounds, heavy metals like lead, chemicals like chlorine, microorganisms like bacteria, hardness minerals, dissolved salts, and almost every other impurity commonly found in drinking water. The water thus obtained can be used for variety of research purposes in the laboratory.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Water Bath

Description/Purpose: A water bath is laboratory equipment that is used to incubate samples at a constant temperature over a long period of time. Water bath is a preferred heat source for heating flammable chemicals instead of an open flame to prevent ignition.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Magnetic Stirrer with Hot Plate

Description/Purpose: The primary use of magnetic stirrer or hot plate with magnetic stirrer is to conduct biological and chemical experiments by mixing two components. It is equally suitable for solids or liquid samples to obtain a consistent liquid mixture.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

pH Meter

Description/Purpose: A pH meter is an instrument used to measure hydrogen ion activity in solutions - in other words, this instrument measures acidity/alkalinity of a solution. The degree of hydrogen ion activity is ultimately expressed as pH level, which generally ranges from 1 to 14.

REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Weighing Balance

Description/Purpose: Weighing balance is an instrument that is used to determine the weight or mass of an object. Weighing scales and balances measure weight by measuring the amount of force exerted on the load cell. They then convert that result to mass and display it in various units of mass.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Ball Mill

Description/Purpose: A ball mill also known as pebble mill or tumbling mill is a milling machine that consists of a hallow cylinder containing balls; mounted on a metallic frame such that it can be rotated along its longitudinal axis. The balls which could be of different diameter occupy 30 – 50 % of the mill volume and its size depends on the feed and mill size. The large balls tend to breakdown the coarse feed materials and the smaller balls help to form fine product by reducing void spaces between the balls. Ball mills grind material by impact and attrition.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Seed Germinator

Description/Purpose: Seed germinators are used for conducting a number of experiments on different types of seeds under varying conditions of humidity and temperature. Using seed germinators, varying ER conditions can be created within the chamber without the need of going outside. Apart from the usual germination applications, these seed germinators are also used for other testing applications involving plants, tissues, micro-organisms, electronic components, etc. Seed germinators are also used in enzyme reaction studies, tissue culture applications; growth observation studies, fermentation analysis and several other specialized applications in laboratories Seed germinators are designed in such a way that they are able to control the crucial environmental parameters like humidity, temperature and illumination.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Direct Shear Testing Machine

Description/Purpose: The make of direct shear testing machine (Manual) is MSI. The direct shear test measures the force and horizontal displacement of a representative soil specimen that is sheared along a controlled horizontal plane at a constant rate of deformation. Typically, three or more tests make up a series and are combined to determine strength properties such as Mohr strength envelopes.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Direct Shear Testing Machine

Description/Purpose: The make of direct shear testing machine (Automatic) is MSI. The direct shear test measures the force and horizontal displacement of a representative soil specimen that is sheared along a controlled horizontal plane at a constant rate of deformation. Typically, three or more tests make up a series and are combined to determine strength properties such as Mohr strength envelopes.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Unconfined Testing Machine

Description/Purpose: The unconfined compression test apparatus is used normally on an undisturbed sample with its natural moisture content. It may also be performed on remolded samples to evaluate the consequences of disturbances and remolding. The unconfined compression test is used to measure the shear strength of the soil. It is the most popular, cheapest, and quickest method to measure shear strength. The test can be performed on intact, remolded, or reconstituted soil specimens using the strain-controlled application of axial load.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Soil and Water Analysis Kit

Description/Purpose: Water and Soil Analysis instruments are widely used for field testing of important parameters such as pH, ORP, Conductivity, TDS, Salinity, Dissolve Oxygen, Turbidity and Temperature.

REGISTRAR
IFTM UNIVERSITY
MORADABAD.

COD Digestion Apparatus

Description/Purpose: COD Digestion Apparatus are used for determining Chemical Oxygen Demand in effluents like waste water, industrial water, sewage water which are discarded after processing. This help in understanding the real time presence of chemicals/gas in natural water bodies.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Agronomy Research Farm

Description/Purpose: The Agronomy Research Farm has vast area of 3570 m^2 with well-equipped irrigation facilities. The main purpose of the farm is to generate modern production technologies of different field crops and cropping systems. The farm establishment is aimed for conducting research programs on water and fertilizer management, breeding and evaluation of new crop varieties and hybrids, production of foundation seeds in crops, pest and disease surveillance, etc. Technologies developed on farm trial are being disseminated by conducting farmers' day, field days, and training programs and through mass media.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Horticultural Research Farm

Description/Purpose: Horticultural Research Farm is occupied with an area of 2465.1 m^2that provides a place where we cultivate the horticultural crops in scientific way as per experimental details. The main purpose of the farm is to develop agro-technologies for horticultural crops and cropping systems. Research trials have been successfully conducted for breeding and evaluation of new crop varieties and hybrids in vegetables, production of seeds, grafts, seedlings of fruit crops and pest-disease surveillance on horticultural crops. The farm facilitates water and fertilizer management approaches on horticultural crops through drip irrigation, fertigation and operational research programs. The technologies developed at farm are recommendations on various crops that being disseminated by conducting farmers' day, field days, training programmes and through mass media.

Sanjeev Agarwal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Dairy Unit

Description/Purpose: Dairy Unit at School of Agricultural Sciences & Engineering is established with an area of 284.4 m^2. This is aimed to develop the practical knowledge of students about nutritional value of milk, cattle feed and milk testing as per standards and checking adulteration in milk. Customization of cattle feed is in regular practice as per the requirement of different animals. Experimental findings are being disseminated among the farmers so that they can be benefitted.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Shade Net House

Description/Purpose: The shade net house is covering an area of 120.9 m^2 with main purpose to allow required sunlight, moisture and air to pass through the net and create an appropriate micro climate conducive to the plant growth. The crops like flower plants, foliage plants, medicinal plants, vegetables and spices are being cultivated under shade net house for successful production against heat stress. Preparation of fruit and vegetable nurseries are also in practice that provides protection against pest attack. However, shade net hose can protect crops from natural weather disturbances such as wind, rain, hail and frost. This also used for hardening tissue culture plantlets.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Fishery

Description/Purpose: Fish pond is situated in university campus at an area of 1025 m^2 and aimed to rear the fishes for scientific research on their nutritional values, growth, mortality rate and suitability to this environment. Survival and mortality rates of different fish breeds are tested to study the effectof different fish feeds on growth of fish and about nutritional values of fishes in this climatic condition. Fingerlings are supplied to farmers for dissemination of fish cultivation technology.

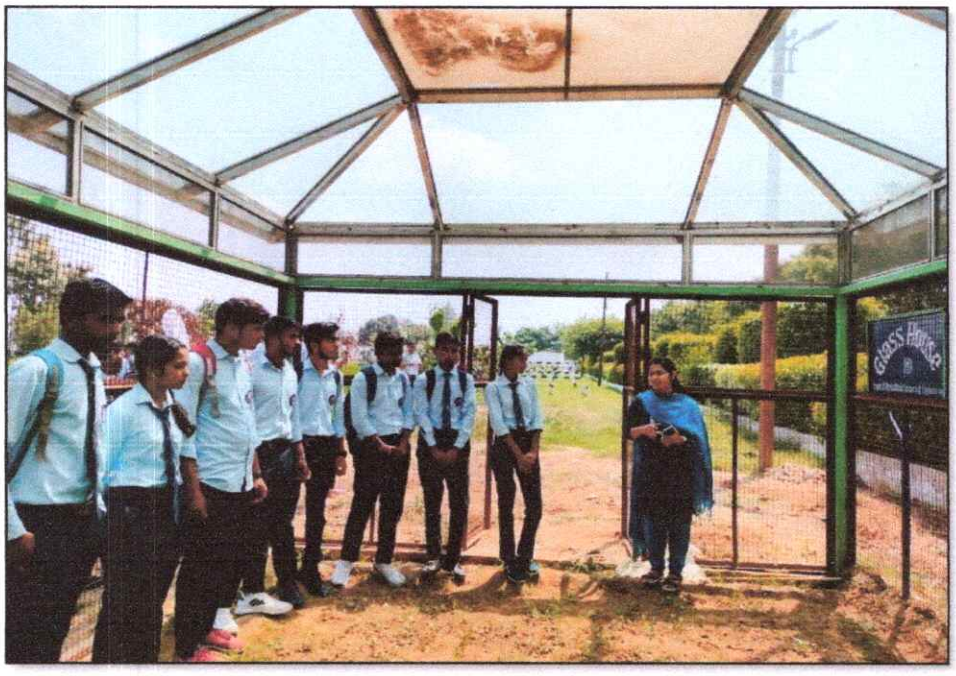
Sanjiv Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Rosery

Description/Purpose: Rosery is planted in university campus at an area of 96.5 m^2. Rose cultivation is very important since roses are used as loose flower, cut flower, perfumery industry, medicinal and aromatic industry and color making etc. It is beneficial for beautification of environment and acts as natural air fresheners as different roses have different scent in them. Production of cut flower and its sale and garden display are common practice in rosery. Post-harvest flowers are utilized in production of rose water, rose oil, gulkand, pankhuri, gulroghan, rose syrup, jam, jellies etc. The rose growing and post-harvest techniques developed in rosary are being disseminated among the farmers so that they can come up as successful entrepreneurs.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Glass House



Description/Purpose: The glass house is established under cover area of 30.96 m^2 inside university campus. The main purpose of building glass house is for the protection of tender or out-of-season plants against excessive cold or heat. Plants need moisture, warmth and light to grow. A greenhouse stabilizes the growing environment by buffering the ambient temperature and protecting the plants from extreme cold. The glass house ensures water saving as it needs a lot less irrigation than normal farming as it traps the moisture, reduces the duration of cropping and increases the quality of crops too. It helps to ensure optimum growth and development of plants inside glass house as temperature and humidity are very effectively controlled as per the requirement of the plants. Through greenhouses, it is possible to grow high value crops in off-season as well. Educated youth can create opportunities for self-employment through the usage of greenhouses and to popularize this technology among the farmers so that they can gain maximum benefit out of it.

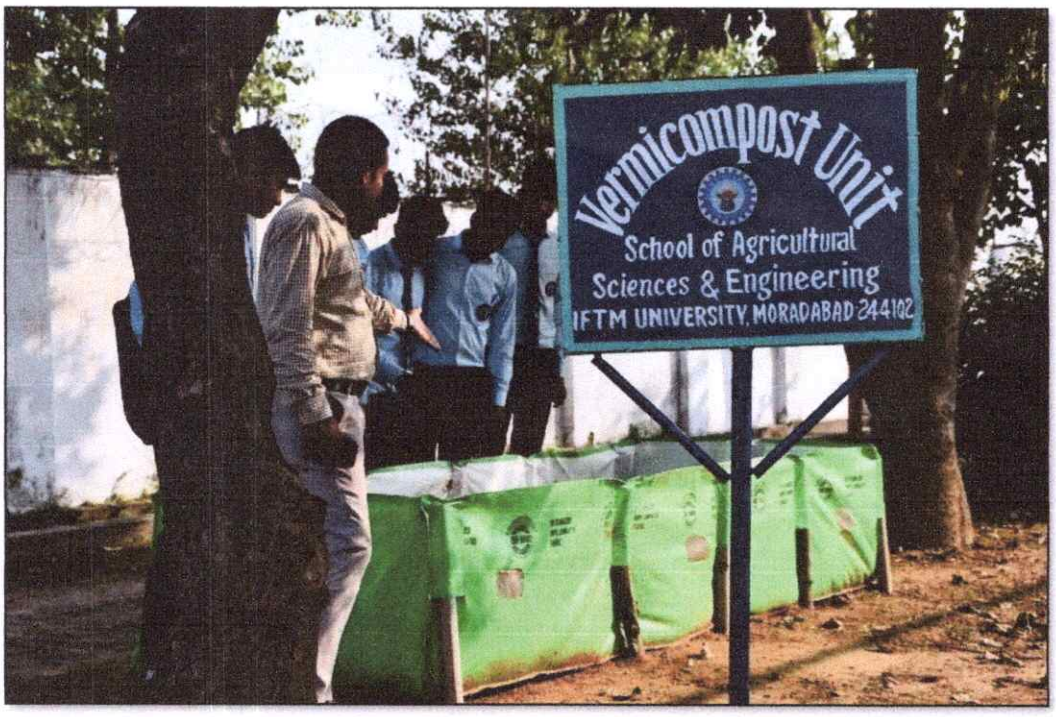
Sanjeev Agarwal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Low Poly Tunnels

Description/Purpose: Low poly tunnels of size 4.19 m^2 are handy also called as row covers. In this clean plastic films or nets are stretched over low wire hoops (arcs up to 1.0 m high) to protect plants against frost, wind, insects and pests. These are used to ensure healthy nursery for early vegetable production especially cucurbits by maintaining optimum temperature for plant growth. This technology is demonstrated among the farmers so that they can fetch maximum benefit out of that.

Sanjeev Bansal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Vermicompost Unit



Description/Purpose: A vermicompost unit of 3.7 m^2 is situated at university campus. This unit produces high quality vermicompost which can be used for scientific research on enhancing quality of soil and crops. Compost organic wastes are not for the disposal of solid organic waste but also to produce superior quality manure to feed our nutrient/ organic matter hungry soils. Large volumes of organic matter generated from agricultural activities, dairy farm and animal shelters are usually dumped as a waste and it is being utilized as a high-quality value-added product. The experiments are conducted on effect of vermicompost in enhancing the overall quality of soil and this technology disseminated among the farmers so that they can be benefitted.

Sanjeev Agarwal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.

Seed Production Farm

Description/Purpose: School of Agricultural Sciences &Engineering, IFTM University holds a vast research farm of 5 hectares on which different crops are cultivated for seed production. During previous years, we have procured breeder seed of mustard (black and yellow) from DRMR, Bharatpur, Rajasthan, Paddy seeds from GBPUA&T, Pantnagar, breeder seed of newly released variety of wheat DBW 187 (Karan Vandana) from Directorate of Wheat and Barley Research, Karnal. These breeder seeds were multiplied and were distributed among the farmers of five adopted villages under Unnat Bharat Abhiyaan. The Centre has also procured license to sale the seeds of DBW 187 in the market. This Centre is continuously working in the field of seed production and transfer of technology to the farmers.

Sanjeev Agrawal
REGISTRAR
IFTM UNIVERSITY
MORADABAD.