Information of Instruments available for consultancy

Name of the Department	Pharmaceutical Sciences
Photo	Details of the instruments, specifications, features, applications and User information

Differential scanning calorimetry (DSC)

Differential scanning calorimetry (DSC)

Model: Heat resistance ring sheet, DSC7020 Elec.Cool. Jacket

Chemical Name: aluminosilicate fibers

Registered company name: Hitachi High-Tech Science Corp.

Working principle:

It is a technique in which the energy necessary to establish a zero temp. difference between the sample & reference material is measured as a function of temp.

DSC Is widely used to measure glass transition temp & characterization of polymer

Glass Transition temp(Tg): Temp at which an amorphous polymer or an amorphous part of crystalline polymer goes from a hard ,brittle state toa soft, Rubbery state.

Specification:

1. Type Heat flux
2. Temperature range: Standard DSC Ambient to 725°C when liquid Nitrogen is not supplied and -150 to 700°C when liquid Nitrogen is supplied.
3. The instrument should not need additional expensive accessories for analysis below room temperature because there is an in-built cooling chamber. Analysis can be conveniently carried out by pouring liquid Nitrogen into the cooling chamber to lower the temperature. The "Sample Loading" function in the software should prevent moisture condensation so that the changing and loading of sample can be carried out rapidly.
4. Temperature Modulation: None
5. Detector:
6. Type K (chromel-alumel) for sample section temperature
7. Type K (chromel-alumel) for furnace section temperature
8. Type E (chromel-constantan) for heat flow (differential measurement)
9. Number of detector: One
10. Furnace Material: Silver-plated Copper
11. Furnace Lid Material: Silver reduces radiant heat loss from the sensor, which then improves baseline stability in the high-temperature region.
12. Furnace Design: There is high thermal resistance between the heating furnace, heat transfer plate and cooling chamber to thermally isolate them and hence produce a more uniform temperature distribution around the furnace and heater. This also prevents too much heat flowing from the heater to the cooling chamber. Consequently, the heater consumes less electricity and the cooling chamber consumes less liquid Nitrogen.
13. Inserting silver gaskets above and below the DSC detector (sensor)inhibits detector movement, which improves DSC baseline stability.
14. Heating Rate: +0.1°C~+99.99°C/min
15. Can set 0.1°C/min or 0.1°C/hour change

16. Maximum heating rate up to 400°C: 20°C/min
17. Maximum heating rate up to 500°C: 10°C/min
18. Hold Period: I min to 999 hours
19. Setting at 1 min or 1-hour increment.
20. When temperature is more than 1000°C, hold time should be less than 5min.
21. Temperature control hardware: Triac firing angle control
22. Temperature control software: PID method (0 to 10000 variable independent parameters)

Applications of DSC:

Qualitative analysis:-It is a finger-printing of minerals, clays, polymers,etc.

Sample purity.

Melting point.

Heat capacity(Cp).

Glass transition(Tg).

Crystallization temperature(Tc).

Phase diagrams.

Contact us: rnwadetwar@gmail.com
Mobile: 8007995551 (Prof. Rita Wadetwar)

Sr. No.	Category	Charges in INR
1	DSC-7020 (per sample for Internal students)	500+18%GST
2	DSC-7020 (per sample for other students)	700+18%GST
3	DSC-7020 (per sample for Industry)	1000+18%GST

Orbital Incubator Shaker
Model: REMI RIS-24 Plus (LCD Version)
REMI RIS-24 Plus (TFT Version)
Specifications:1] Shaking capacity up to 18 Liters
2] Temp. range 5°C above ambient to 60°C
3] Clamps for holding Conical Flask
Capacity 1000ml/500ml
Capacity 250 ml/150 ml

Orbital Incubator Shaker

Capacity 100/50 ml

Working Principle: An orbital incubator shaker combines controlled temperature and orbital shaking to cultivate microorganisms or cells. It ensures uniform growth by maintaining optimal conditions, such as temperature, humidity, and aeration, promoting efficient mixing of cultures for better results in biological research or industrial processes.

Application: bacterial suspension, solubility studies, growth of bacteria and yeast, extraction procedures, washing procedures, diagnostics tests, hybridization, general mixing, staining & destaining, mixing, and extracting.

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Sr. No.	Category	Charges in INR
1	Orbital incubator shaker (per day)	250+18 % GST

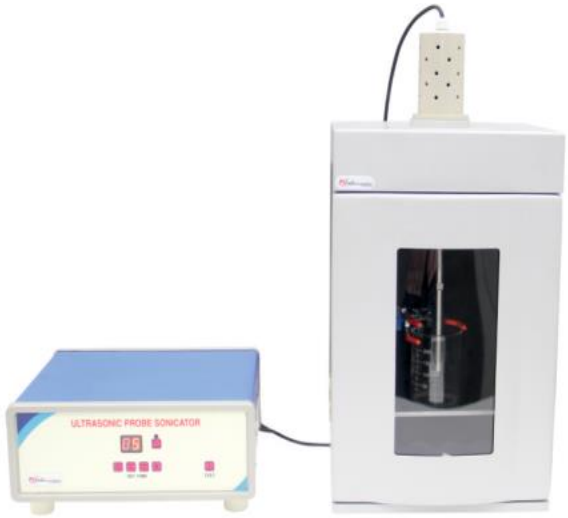
Probe Sonicator

Model: PS500W

Working Principle

Probe Sonicator is commonly used in nanotechnology for evenly dispersing nanoparticles in liquids and for breaking down particles to nano size. A Sonicator system comprises of 3 main components: generator, convertor and horn (probe). The generator transforms AC line power into high-frequency electrical energy. The generator features a keypad or buttons that allow the user to control the Sonication parameters. The generator provides high voltage pulses of energy at a frequency of 20KHz that drives a piezoelectric convertor. The converter is a cylindrical device that is connected to the generator by a high-voltage cable. The converter transforms electrical energy into mechanical vibrations. The vibration is amplified and transmitted down the length of the probe/horn.

Probe Sonicator



Specification

Sample Capacity: 10 ml - 1000 ml

Probe Size: 12 & 20

ELECTRIC SUPPLY: 240 V, AC, 50 - 60 Hz, 1 Phase

LITRE CAPACITY: 10mL to 1,000 mL

POWER VARIATION: From 5-100%. Ultrasonic power may vary for both ps.
ULTRASONIC FREQUENCY: 20 plus/minus 1 KHz.
Cyclic Mode: Maximum 99 seconds ON me, 99 seconds off me OFF me & Total Time of processor operation in a cyclic mode. The total run-me is a maximum of 99 minutes. Change the OFF me ‘0' (zero) to run the sonicator in continuous mode. Do not run the machine continuously for more than 1 hour 30 minutes.
PROCESSOR TIPS: Detachable 12 MM & 20 MM p made of Titanium
ULTRASONIC HORN: The horn is made of Aluminum & is filled with sandwich-type PZT Transducers
ULTRASONIC GENERATOR: The generator is housed in a separate cabinet. It has Auto-tuning & the control is provided on the outer panel
STANDARD ACCESSORIES: Jack-type stand for sample placement.
Application
Tissue Processing (Plant & Animal Tissues)
Emulsification of Immiscible Liquids.
De-gassing & De-aerating of Liquids.
Particle Dispersion in small volume batches of up to 500
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Mobile: 8007995551 (Prof. Rita Wadetwar)

Sr. No.	Category	Charges in INR
1	Probe sonicator (per sample other student)	400 + 18% GST
2	Probe sonicator (per sample for Industry)	1000 + 18% GST

Tablet compression machine

Tablet compression machine

Model : CPM03-10

PRINCIPLE

In the tablet compression machine main principle is compressing the grains/powder in the upper and lower punch in a die hole. The hydraulic pressure plays a key role. This pressure is transmitted unreduced through the static fluid. Any externally applied pressure is transmitted via static fluid to all the directions in same proportion. It also makes it possible to multiply the force as needed. If we increase the hydraulic pressure more compressing force on a tablet then it becomes more hard.

Specification

- A double rotary machine in compliance with cGMP guidelines
- Force feeders with A.C. variable drive
- A.C. Drive for the main motor with electro-magnetic clutch system
- Upper punch penetration system
- Separate control panel
- Auto lubrication system
- 3 types of filling cams
- Anti-vibration mounts
- PLC system as an optional feature

Applications of the Tablet Press Machines

It is used in pharmaceutical industries for tablet making.

The Tablet Press machine is also used in the research and development department for any experiments with Tablets.

It is also used in Ceramic, Herbal, and other relevant industries.

The tablet press machine is also used in various industries where different types of medicines are formed.

It is used to make chewable tablets. This type of tablet contains other substances as well like mannitol, lubricants, binders, and several other ingredients. It is also useful for the production of effervescent tablets that contain substances like tartaric acid, citric acid as well as sodium bicarbonate. This machine is useful for several other compressed tablets.

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Mobile: 8888836438 (Prof. P. K. Puranik)

Sr. No.	Category	Charges in INR
1	Tablet compression machine (per hour for Student)	750 + 18% GST
2	Tablet compression machine (per hour for Industry)	1000 + 18% GST

UV-1800 spectrophotometer

UV-1800 spectrophotometer
Model : Shimadzu UV-1800
Specification: 1] High Resolution
2] Compact and Space Saving Design
3] User-Friendly Access to Data
Working Principle: Ultraviolet-visible (UV-Vis) spectrophotometers use a light source to illuminate a sample with light across the UV to the visible wavelength range (typically 190 to 800 nm). The instruments measure the light absorbed, transmitted, or reflected by the sample at each wavelength. Some spectrophotometers have an extended wavelength range, into the near-infrared (NIR) region.

Main Features of the instrument:
1] Powerful 1 nm resolution in a compact double-beam instrument
2] Extremely versatile with full functionality from 190 to 800 nm
3] Control as a stand-alone unit or through a PC with included UV Probe software
4] PC interface and flash-drive data transfer via USB connectivity
5] Built-in validation software ensures operational accuracy

Applications: Qualitative Analysis
Quantitative Analysis

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Mobile: 9970425572 (Prof. Pramod S. Salve)

Sr. No.	Category	Charges in INR
1	UV-1800 spectrophotometer (per spectrum for Student)	300 + 18% GST
2	UV-1800 spectrophotometer (per spectrum for Industry)	400 + 18 % GST
3	UV-1800 spectrophotometer (per spectrum for UV-method development)	1000 + 18% GST

6-Station diffusion cell apparatus

6-Station diffusion cell apparatus

Model: EMFDCO6-030
Specifications: 1] Six-stage magnetic stirrer with digital RPM indicator
2] Water heater and water circulation system with digital temperature controller and water level indicator
3] Cell holders
4] Diffusion cells
5] Teflon-coated stirring bars
Working Principle:
The working of the diffusion cell apparatus or Franz cell is based on 'in vitro diffusion. It consists of two chambers, a donor compartment, and a receptor compartment, separated by a membrane. The product to be tested is introduced through the donor compartment (the top chamber).
Application:
To evaluate the ex-vivo skin permeation and in-vitro drug release of the formulations.
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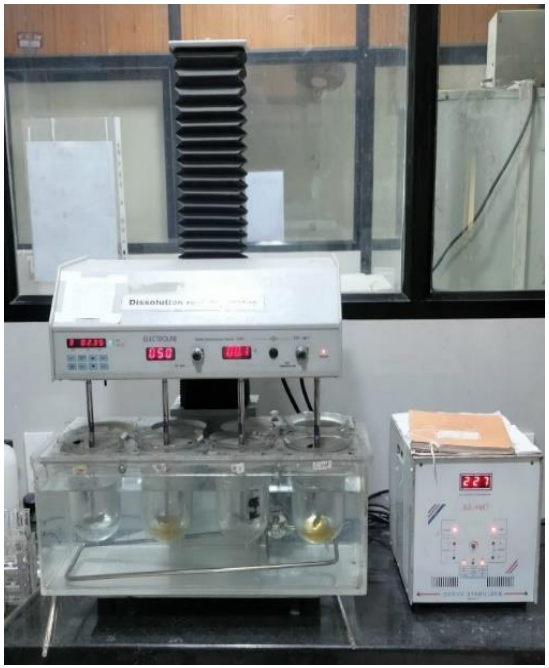
Mobile: 9970425572(Prof. Pramod S. Salve)

Sr. No.	Category	Charges in INR
1	6-Station diffusion cell apparatus (per sample for Student)	400+18%GST
2	6-Station diffusion cell apparatus (per sample for Industry)	1000+18%GST

USP dissolution test apparatus



USP dissolution test apparatus
Model: TDT-06T
Specification: 6 Stirring Stations -Complies with USP, IP, BP, DAB Specifications

Working Principle:
In the dissolution test, in its simplest form, the sample is placed in dissolution a vessel containing a dissolution medium maintained at a temperature of 37±0.5 °C. The sample is withdrawn at time intervals and analyzed by a suitable spectrophotometric method.

Main Features of the instrument:
1] Ergonomically designed control panel with membrane keyboard
2] Study bath top plate with precise vessel centring facility
3] Validation printout capability of test parameters
4] Supports USP apparatus 1, 2, 5 and 6 -12 programmable monographs and sampling intervals.
5]Ideal for dissolution study of sustained and controlled release products
6] Supports both glass and Merlon jars

Applications: Quantitative Analysis
Contact us: pramodsalve77@yahoo.com
Mobile: 9970425572 (Prof. Pramod S. Salve)

Sr. No.	Category	Charges in INR
1	USP dissolution test apparatus (per sample for Student)	250+18%GST
2	USP dissolution test apparatus (per sample for Industry)	500+18%GST

High-Pressure Homogenizer

High-Pressure Homogenizer

Mode: PandaPLUS 2000
Working Principle:

The major principle of high-pressure homogenization (HPH) relies on abrupt pressure gradient, high turbulence, cavitation as well as strong shearing forces, which are aroused under strong depressurization of highly compressed sludge suspensions (up to 900 bar)

Application:

This small table-top laboratory unit, designed for continuous operation at high pressure, is the perfect equipment for high-pressure processing of nanoparticles, nano dispersions, nano emulsions, and cell disruption. In addition, it can be successfully used for processing dairy products, fruit juices, liquid food, food additives and ingredients as well as cosmetic and chemical products. Tests can be run even with small sample volumes, and the results are comparable with those achieved on bigger-size machines.
Specifications: Flow rate: 9 l/h,
Pressure: 2000 bar
Electrical Supply: 50 Hz

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Sr. No.	Category	Charges in INR
1	High-pressure homogeniser (Per sample)	750 + 18% GST
2	High Pressure Homogenizer (Per sample for industry)	2000 + 18% GST

Lyophilizer

Lyophilizer

Model: Freeze Dryer LBFD-E11

Specifications: Condenser temperature: - 80 °C
Condenser capacity : 3 kg / 24 h
Freeze drying area : 0.1 m²
Bulk capacity : 1 L

Working Principle:
Freeze Drying (Lyophilization) is a process whereby a product is dried under low temperature and vacuum. The water in the sample is first frozen to a solid and then removed directly by turning the ice into vapor. This is done under vacuum and without having to pass through the liquid phase.

Application : Top Press Freeze Dryer LBFD-E11 is a compact table-top unit with 3 kg condenser capacity and condenser temperature of -80 °C for specimens containing solvents. The manifolds allow lyophilization of a wide spectrum of sample volumes. It facilitates the connection of eight different sizes of flasks ranging from 100 ml to 1000 ml. Precise vacuum control enables faster freeze drying and reproducible results.

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Sr. No.	Category	Charges in INR
1	Lyophilizer (Per 24 hour)	1000 + 18% GST
2	Lyophilizer (Per 24 hours for Industry)	2000 + 18% GST

Brookfeield Rheometer

Brookfeield Rheometer

Model: DVNXLVTJG
Specifications: Viscosity range: 1-6Mcp
RPM: 0.1-250 2.6K

Working Principle:
Brookfield viscometers employ the principle of rotational viscometry - the torque required to turn an object, such as a spindle, in a fluid indicates the viscosity of the fluid. Torque is applied through a calibrated spring to a disk or bob spindle immersed in test fluid and the spring deflection measures the viscous drag of the fluid against the spindle. The amount of viscous drag is proportional to the amount of torque required to rotate the spindle, and thus to the viscosity of a Newtonian fluid.

Application: It measures gel time using a unique magnetic coupling that attaches the glass rod to the instrument. When gel time is reached, the display shows both gel time and equivalent viscosity value. The glass rod is quickly and easily detached from the instrument. An integrated temperature probe provides peak exotherm data if needed. The DV Next can be ordered with a glass measurement rod, compression-fit glass rod adapter, lab stand with adjustable stop for quickly positioning glass rod at proper immersion depth in a test sample, and temperature probe.

Sr. No.	Category	Charges in INR
1	Rheometer (Per Sample for Student)	400 + 18% GST
2	Rheometer (Per sample for Industry)	500 + 18% GST

Name: All Purpose Machine

Model: VJ Instruments

Name of Instrument	Specification	Uses
All Purpose Main Drive	MOC - Contact part SS316 & Non contact part SS304 RPM Control Timer Programable Industrial Standard Control panel with protection	

All Purpose Machine

Double Cone Blender	MOC - Contact part SS316 & Non contact part SS304 Auto discharge (inside finishing) Should Fit on All purpose main Drive Capacity 1 lit	Use of solid mixing
Ball Mill	MOC - Contact part SS316 & Non-contact part SS304 Balls with different dimeter Auto discharge (inside finishing) Should Fit on All-purpose main Drive Capacity 1 lit	Use for size reduction (1-5 micrometres) and mixing of solid, liquids and semi solids.
Cube Mixer	MOC - Contact part SS316 & Non contact part SS304 Auto discharge (inside finishing) Should Fit on All purpose main Drive Capacity 1 lit	Use of solid mixing
V Cone Blender	MOC - Contact part SS316 & Non contact part SS304 Auto discharge (inside finishing) Should Fit on All purpose main Drive. Capacity 1 lit	Use of solid mixing

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Mobile: 8888836438 (Prof. P. K. Puranik)

Sr. No.	Category	Charges in INR
1	All Purpose machine (ball mill) (Per sample for 12 hour)	300 + 18% GST
2	All Purpose machine (cone/ Double Cone Blender) (Per sample for 12 hour)	100 + 18% GST

High Performance Liquid Chromatography (HPLC)

High Performance Liquid Chromatography (HPLC)

Model : P series PDA HPLC

Specification : 1] LC system with autosampler
2] Low pressure gradient unit
3] HPLC PDA Detector

Working Principle : The working principle of HPLC involves separating and identifying the components of a complex mixture by passing it through a liquid mobile phase over a stationary phase. The separation is based on the interaction between the mobile phase and the analytes in the sample, and can be controlled by factors such as flow rate, gradient, temperature, and pH. HPLC is used for a variety of applications

Main Features of the instrument :

- Binary HPLC system with four M.P. ports
- Binary HPLC system with PDA detector (190-800 nm)
- C18 C8 5u,4.6x250um column

Applications : Qualitative Analysis
Quantitative Analysis

User Information :

1) Expected structure or mass should be provided.
2) Solvent for mobile phase should be mentioned or solubility of compound in solvent should be given.
3) As HPLC is available in most departments, LC of submitted samples indicating the operating conditions should be supplied along with the sample.
4) At present C8 and C18 columns are available.
5) You can submit the column of your interest for separation or repeatability of HPLC run.
6) HPLC related data or details of method development should be provided, if available.
7) Source of the compound should be mentioned.
8) MS-DS (Material Safety Data Sheet) should be given along with samples to ensure that there is no toxic sample being given. Samples should not be toxic or hazardous.

Contact us : udpsconsultancy@gmail.com

Mobile : 9529696043/9689464421 (Prof. N. A. Raut)

Sr. No.	Category	Charges in INR
1	Analysis per sample (Student)	500 + 18% GST
2	Analysis per sample (Industry)	1000 + 18% GST

UV-Vis Spectrophotometer

UV-Vis Spectrophotometer

Model : UV-1900i

Specification :

1. Range: 190 nm to 1100 nm
2. Monochromator: Double Monochromator with Variable Slit Width
3. Spectral Bandwidth: 1.8 nm
4. Wavelength accuracy: +/-0.3nm over entire range
5. Photometric accuracy: Minimum +/-0.004 Abs
6. Photometric repeatability: +/-0.002Abs
7. Detector: Silicon Photo multiplayer

Working Principle : UV spectrophotometers use deuterium and tungsten filament lamps for ultraviolet and visible light. Users can choose a wavelength for analysis using the monochromator's prism or diffraction grating. Sample compartment absorbs light. Photodiodes and photomultiplier tubes convert light into electricity. Signal processing and interpretation yield a sample concentration-matched spectrum or numerical absorbance value. With Beer's Law, we connect. Spectrophotometers measure UV light absorption to determine sample composition.

Applications : Qualitative Analysis
Quantitative Analysis

User Information :

1. MS-DS (Material Safety Data Sheet) should be given along with samples to ensure that there is no toxic sample being given. Samples should not be toxic or hazardous.
2. Source of the compound should be mentioned.
3. UV method development 1000 per sample will be charged.

Contact us : udpsconsultancy@gmail.com

Mobile : 9529696043/8857857082

Sr. No.	Category	Charges in INR
1	Analysis per spectrum (Student)	300 + 18% GST
2	Analysis per spectrum (Industry)	400 + 18% GST

Fourier-transform Infrared Spectrometer

Fourier-transform Infrared Spectrometer

Model : IR Spirit

Specification :

1. Range: 7800 cm^{-1} to 350 cm^{-1}
2. Transmittance: About 90%
3. Humidity resistance: Higher than KBr window
4. Interferometer: Michelson interferometer (30° incident angle)
5. Optical system: Single-beam optics
6. Sample compartment: Equipped with automatic accessory recognition mechanism Center focus

Working Principle: The broad spectrum of mid-infrared semiconductor lasers covers FTIR spectrometer organic molecule vibrational frequencies. A Michelson interferometer splits radiation and sends beams along fixed and moving mirror paths. Different mirror positions cause different time delays, creating an interferogram upon recombination. Combined beam interference affects pyroelectric detector signal. Computers digitize and process this signal using Fourier transform to decode the interferogram into an infrared radiation intensity spectrum at different wavelengths. Molecular functional group absorption peaks must be identified for spectrum interpretation. Interferometer mirror movement and real-time Fourier transforms enable high-resolution spectra and efficient scanning. Comparing sample spectra to molecular identification libraries speeds analysis.

User Information :

1. Solubility of compound in suitable solvent should be informed.
2. Brittle and gummy samples should be avoided.
3. Source of the compound should be mentioned.
4. MS-DS (Material Safety Data Sheet) should be given along with samples to ensure no toxic sample is being given. Samples should not be toxic or hazardous.

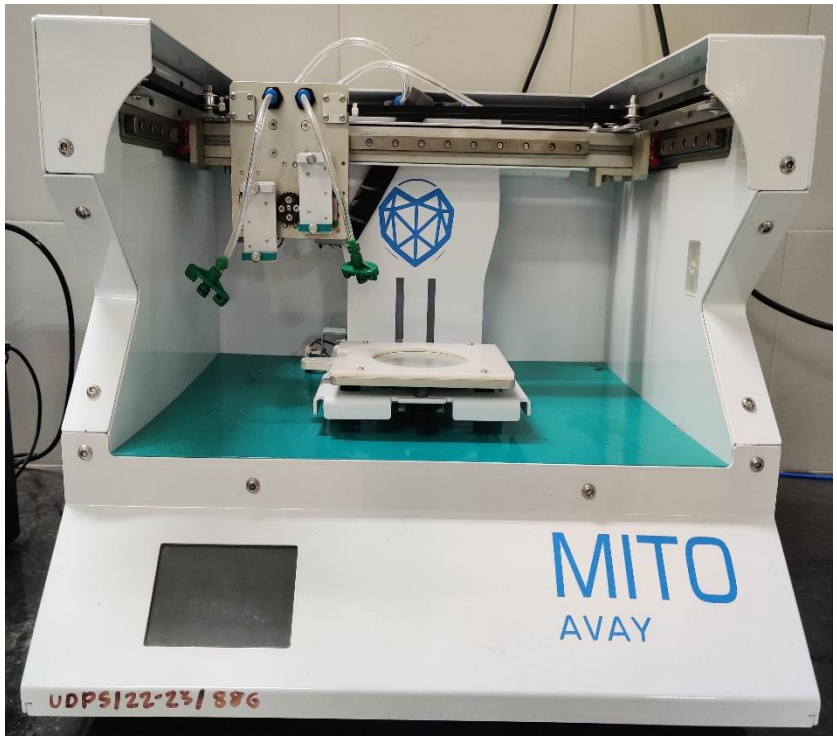
Applications : Qualitative Analysis of functional groups

Contact us : udpsconsultancy@gmail.com

Mobile : 9529696043/7020979036 (Prof. N. A. Raut)

Sr. No.	Category	Charges in INR
1	FTIR analysis per sample (Student)	200 + 18% GST
2	FTIR analysis per sample (Industry)	400 + 18% GST

3D Bio Printer



3D Bio Printer

Model : Avay Mito Basic
Specification :
1. Motion Specification : Motion control: X, Y, Z axes
Build Volume: 130x100x40 mm
Max. movement speed 80 mm/s
2. Printing Specification: No. of syringe cartridges (unit) Dual Print Head System
Dispensing Needle *Luer lock blunt needle *Luer lock dispensing cone tips
Layer Height (mm) 0.1 - 0.3 microns
Max. print speed 50 mm/s
Building Platform Type *Petri dish *Cell culture plate with 6 wells
*Glass Slide
3. Dispensing Specifications :
Mechanism Pnematic based extrusion
Pressure bar 0.1 to 4 bar
4. Operational Specifications: Input Power Single phase 220VAC
Printer dimensions 530 x 450 x 420 mm
Software Avay Proprietary Software
Application : Pharmaceutical drug discovery and testing, cancer biology, and cosmetology
Contact us : pbkhedekarudps@gmail.com
Mobile : 9822472093/7378653942 (Prof. P. B. Khedekar)

Sr. No.	Category	Charges in INR
1	Per Sample (Student)	3000 + 18% GST
2	Per Sample (Industry)	3500 + 18% GST

Rota Evaporator

Rota Evaporator

Model :PCI-45

Specification :

1. Motarised Lift arrangement for Glass Assembly
2. Geard drive Units a smooth speed rotation, R.P.M. Control from 20 to 200 R.P.M.
3. Double walled bath- Seamless inner vessel SS 304, outer AL with high grade insulation to eliminate heat loss.
4. Temp. control from ambient plus 5°C to 18°C.

Application:

Solvent Recovery
Concentration of Solutions
Sample Purification
Extraction of Natural Products
Oil Distillation
Preparation of Distillates
Drying of Powders
Chemical Synthesis

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Mobile : 9822472093 (Prof. P. B. Khedekar)

Sr. No.	Category	Charges in INR
1	Sample per hour (Student)	200 + 18% GST
2	Sample per hour (Industry)	300 + 18% GST

USP dissolution test apparatus

USP dissolution test apparatus

Model: Inspire 8 Basic

Specification: 6 Stirring Stations -Complies with USP, IP, BP, DAB Specifications

Working Principle:

In the dissolution test, in its simplest form, the sample is placed in dissolution a vessel containing a dissolution medium maintained at a temperature of 37±0.5 °C. The sample is withdrawn at time intervals and analyzed by a suitable spectrophotometric method.

Main Features of the instrument:

1] Ergonomically designed control panel with membrane keyboard
2] Study bath top plate with precise vessel centring facility
3] Validation printout capability of test parameters
4] Supports USP apparatus 1, 2, 5 and 6 -12 programmable monographs and sampling intervals.
5]Ideal for dissolution study of sustained and controlled release products
6] Supports both glass and Merlon jars

Accuracy +/-1% RPM
Temperature Range 20° C to 40° C
Temperature Accuracy ±0.1°C
Sample interval Maximum 16 of 1 min to 23 hrs, 59 min

Applications: Quantitative Analysis

Contact us : udpsconsultancy@gmail.com
Mobile : 9529696043/9284579030 (Prof. N. A. Raut)

Sr. No.	Category	Charges in INR
1	USP dissolution test apparatus (per sample for Student)	250+18%GST
2	USP dissolution test apparatus (per sample for Industry)	500+18%GST

High-performance liquid chromatography

Name : **High-performance liquid chromatography**
Model : SPD-M20A
Specification : 1) UFLC with PDA detector
2) UFLC PDA Detector -
Working Principle : Liquid chromatography / Mass Spectroscopy (LC / MS) is a technique which combines high performance liquid chromatography HPLC, a powerful analytical separation and quantification technique with mass spectroscopy, a powerful analysis & detection technique.
Main Features of the instrument

- Binary UFLC system with Mass as detector
- Binary UFLC system with PDA detector (190-800 nm)
- UFLC PDA Mass Spectrometer.

Applications : Qualitative Analysis
Quantitative Analysis
User Information :
1) Expected structure or mass should be provided.
2) Solvent for mobile phase should be mentioned or solubility of compound in solvent should be given.
3) As HPLC is available in most departments, LC of submitted samples indicating the operating conditions should be supplied along with the sample.
4) At present C8 and C18 columns are available.
5) You can submit the column of your interest for separation or repeatability of HPLC run.
6) HPLC related data or details of method development should be provided, if available.
7) Source of the compound should be mentioned.
8) MS-DS (Material Safety Data Sheet) should be given along with samples to ensure that there is no toxic sample being given. Samples should not be toxic or hazardous.
9) Method Development cost will vary case to case.
Contact us : udps.pharmacognosy@gmail.com
Mobile : 9766191818/7517491322

Sr. No.	Category	Charges in INR
1	Per sample (Student)	500 + 18% GST
2	Per sample (Industry)	1000 + 18% GST

High-performance thin layer chromatography

Name : **High-performance thin layer chromatography**
Model : CAMAG linomat 5
Specification : chromatogram
TLC Scanner 4
Software-controlled operation with visionCATS
The Linomat 5 is controlled by visionCATS, the new generation of HPTLC software. Instrument handling is now easier and more convenient. Simply select a plate format, fill in the sequence table and start working. With visionCATS, the Linomat 5 can be IQ/OQ qualified and used in a cGMP environment.
Twin Trough Chamber:
Low solvent consumption 20 mL of solvent are sufficient for a 20 × 20 cm chamber, 10 mL for the 20 × 10 cm chamber and 5 mL for a 10 × 10 cm chamber. This reduces not only solvent consumption but also disposal problems. Reproducible preconditioning of the layer with solvent vapor
Developing solvent is placed in the trough opposite to the plate. Preconditioning can be performed with any solvent and for any duration. Development is started when developing solvent is placed into the trough with the plate
Applications : Determination of RF value , spectrum and area Pharmaceutical applications

- Quality control
- Content Uniformity Test (CUT)
- Identity- and purity checks
- Stability tests, etc.

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Mobile : 9766191818/9552128652

Sr. No.	Category	Charges in INR
1	Per Sample Per Run	500 + 18% GST

Polymerase chain reaction

Name : **Polymerase chain reaction**
Model: T100 Thermal Cycler
Specification:

1. Intuitive touch screen
2. Consistent results
3. Easy optimization
4. Easy protocol management

Working principle: A PCR machine—or a thermal cycler—is an instrument that amplifies target nucleic acid sequences into millions of copies via polymerase chain reaction. Thermal cyclers regulate temperature in a cyclical program.
Applications: Applications and uses for the T100 Thermal Cycler

1. Nucleic acid amplification (PCR)
2. Gene cloning and analysis
3. Gene expression analysis
4. Mutational analysis
5. Cycle sequencing

User information:

1. Clean all the tubes and glass wares required for PCR.
2. Wear clean apron, gloves and mask during protocol.
3. Use sterile, nuclease-free water and dedicated reagents (use a single aliquot per experiment session).
4. Use screw-cap tubes for dilutions and reaction master mix setup.
5. Wipe down all workstations with dilute solutions of bleach or similar cleaning aids.
6. Prepare samples on a clean bench with a UV-lamp equipped hood.
7. Keep the thermal cycler area away from the sample preparation station.
8. Thaw all reagents on ice (unless otherwise specified) and mix and spin carefully before use.
9. Add required reagents or master mix and template to PCR tubes.
10. Mix and centrifuge.
11. Run the program for PCR.
12. Carefully remove samples after completion and avoid extended contact with the heating block.
13. Turn off instrument after use and wipe it.
14. Evaluate amplified DNA by agarose gel electrophoresis followed by staining.

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Sr. No.	Category	Charges in INR
1	Per Sample Per Run	500 + 18% GST

Sr. No.	Category	Charges in INR
1	mRNA quantification (per sample)	5000 + 18% GST

Operant Conditioning Chamber

Name: **Operant Conditioning Chamber**
Model: H10-11R-TC-SF
Working principle: Operant chamber is an entirely modular experimental enclosure designed to conduct operant conditioning procedures (e.g. food reinforcement, DMTS, conflict tests, self-administration, etc)
User information:

1. Clean the chamber with 70% alcohol.
2. Check all the electrical plugs and connections before starting experiment.
3. Set experimental protocol in the computer.
4. Check all the parameters for ICSS protocol (Current, frequency, etc).
5. Place the ICSS animal in the chamber and connect the connector to the electrode.
6. Check all the settings for food reward protocol (food dispenser, hopper, position of the lever, etc).
7. Check all the settings for foot shock protocol (foot shock current, floor grid position of the lever, etc).
8. The door of the chamber should be closed during experiment.
9. The light should be turn off during experiment.
10. Clean the operant chamber after completion of the experiment.

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Sr. No.	Category	Charges in INR
1	Reward and motivation screening in rats (per rat)	3000 + 18% GST

Tissue sectioning

Name: **Tissue sectioning**
Model: Cryostat CM1850
Specification:

1. Microtome Type: Rotary microtome
2. Section thickness setting: 1 to 60 µm: 1 µm increments from 1 to 10 µm, 2 µm increments from 10 to 20 µm and 5 µm increments from 20 to 60 µm
3. Horizontal specimen feed: 25 mm
4. Vertical stroke: 59 mm
5. Maximum specimen size: 55 x 55 mm
6. Specimen orientation: 8 ° (x-, y-, z-Achse)
7. Electric coarse feed - slow: 0.2 mm/s
8. Electric coarse feed - rapid: 0.7 mm/s

Working principle: The Leica CM1850 cryostat is a cryo cooled rotary microtome for preparation of sections from snap-frozen, fresh and fixed material. The unit allows preparation of sections 1-60um thickness and is also equiped with a cryojane tape transfer system.
Applications:

1. Specimen discs
2. Trimming the specimen
3. Section thickness setting
4. Temperature selection chart
5. Defrosting

User information:

1. Clean the cryostat with cotton soaked in alcohol.
2. Place all the accessories in the chamber.
3. Put on the cryostat and set the temperature at -28° C.
4. Prepare the block of tissue in polyvinyl pyrrolidone and process for sectioning.
5. At the end clean entire chamber and leave I for overnight.

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Sr. No.	Category	Charges in INR
1	Tissue sectioning (per slide)	1500 + 18% GST

Tail cuff Blood Pressure Monitoring

Name: **Tail cuff Blood Pressure Monitoring**
Model: NIBP250
Specification:

1. Cut-off Pressure Range: 100 – 300 mmHg (adjustable by 1mmHg steps)
2. Pressure Accuracy: 300 mmHg Full Scale 1%
3. Pressure Sensitivity: 0.1 mmHg
4. Pressure Signal output: 300 mmHg/3 Volt DC
5. Pulse Gain Levels: x1, x2, x4, x5, x8, x16, x32 (adjustable)
6. Pulse Signal Output: 0 – 4 Volt DC
7. Pulse Display: Pulse intensity is displayed on A2, derived from plethysmography measure. The tail sensor detects blood flow and pulse intensity is increased or decreased, depending on the flow ratio. LCD Display: 7” 800 x 480 TFT (NIBP250)
8. User Interface: Resistive Touch Panel (NIBP250)
9. Analog outputs: Two BNC connectors for uncalibrated pressure and pulse signals
10. Triggers: Two BNC connectors for TTL Compatible trigger in and out signals
11. Power Supply: 12 Volt 2 Amp – External

Working principle: The NIBP250 small animal tail noninvasive blood pressure monitor is a stand-alone device to measure the blood pressure of small animals and has a touch screen LCD user interface to control the system and display the data.
User information:

1. Turn the Animal Heating Chamber on.
2. Set the temperature value (press and hold P. Set and then press the up or down arrow to reach the desired value).
3. For accurate non-invasive blood pressure measurement, the animal or its tail should be warmed to 32° C. 3. Press the Heater button to start heating to the selected temperature value.
4. Place the animal inside the RESTRAINER “Animal Holder” (select the suitable size for the animal volume).
5. Leave the tail outside
6. Adjust the length to obtain a position where the animal has limited movement.
7. Place the RESTRAINER (with the animal) in the heating section of the Animal Heating Chamber.
8. Wait approximately 30 minutes for the animal to reach the selected temperature.
9. Remove the RESTRAINER from the Animal Heating Chamber.
10. Connect the IRSENSOR to the tail of the animal inside the RESTRAINER.
11. Check if the sensor just fits to the tail. The sensor should be between the midpoint of tail and tail end (spinal column). To achieve this, a suitable sensor should be selected.
12. Wait for the animal to relax and become inactive before starting measurements.

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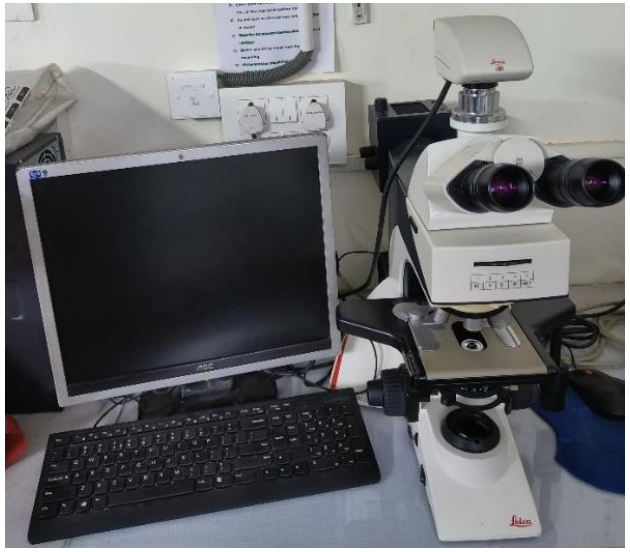
Sr. No.	Category	Charges in INR
1	lood Pressure Monitoring (per rat)	700 + 18% GST

Imaging



Name: **Imaging**
Model: Leica DM500 Fluorescence Microscope
Specification:

1. Head- Binocular 45° EZ Tube with pointer or Trinocular
2. Eyepieces Binocular Head Eyepieces: Integrated 10x/18mm with pointer

Working Principle: The underlying key principle is the use of fluorescent molecules—so-called fluorophores—for the labeling of defined cellular structures. These molecules, such as green fluorescent protein (GFP), absorb light at a specific wavelength (excitation) and emit it at a specific higher wavelength (emission)
Applications:

1. Fluorescence microscopy is applied for the detection of specific structures, molecules, or proteins within a cell.
2. When using this technique, almost any component of living and fixed cells or tissues can be “stained” and thereby specifically imaged—up to the highest magnifications.

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Sr. No.	Category	Charges in INR
1	Fluorescence imaging (per slide)	3000 + 18% GST

Immunohistochemistry

Name: **Immunohistochemistry**

Specification:

1. Immunohistochemical staining is a valuable tool for detecting specific antigens in tissues.
2. In order to perform the standard staining procedure, first the tissue section has to be deparaffinized and then rehydrated before applying the primary antibody.
3. Enzyme-conjugated secondary antibodies are then applied and the specific staining can be visualized after adding the enzyme-specific substrate.
4. Occasionally, when weak or no staining is observed, an antigen "unmasking" by enzyme digestion, may be required.

Working Principle: Immunohistochemistry is a research method combining morphology and biochemistry. A brief summary of this basic step is to react with "antibody" that specifically binds to an "antigen", and "visualize" the site where the antigen-antibody reaction has taken place and observe it microscopically.

Applications:

1. Application of monoclonal as well as polyclonal antibodies to determine the tissue distribution of an antigen of interest in health and disease.
2. IHC is widely used for diagnosis of cancers; specific tumor antigens are expressed de novo or up-regulated in certain cancers.

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Sr. No.	Category	Charges in INR
1	Immunohistochemistry of interested markers (per slide)	6000 + 18% GST

Behavioural Paradigms

1 Open Field Test (Locomotor Activity)
2 Hargreaves Test (Thermal Hyperalgesia)
3 Von Frey Apparatus
4 Forced Swim Test
5 Y Maze
6 T Maze
7 Elevated Pus Maze
8 Conditioning Place Preference
9 Deep Brain Stimulus
10 Anger Paradigm

Name:**Behavioural Paradigms**

Specification:

1. Learning and memory
2. Locomotion and motivation
3. Attention and perception
4. Motor performance
5. The percentage of time moving
6. Anxiety
7. Cognition and cognitive flexibility
8. Reward and motivation
9. CNS depression and stimulation

11 Rotarod Apparatus
12 Hot Plate Method
13 Morris Water Maze
14 Novel Recognition Object
15 Radial Arm Maze
16 Actophotometer
17 Light and Dark Box

10. Pain and analgesia assessment

Working principle: Behaviorism is based on the idea that environmental factors determine all behavior, not internal mental states. This means that all behavior can be explained by how we have been conditioned to respond to our environment. Behaviorism has been very influential in the development of psychology as a science.

Applications:

1. Used to determine general activity levels
2. Gross locomotor activity
3. Exploration habits in rodent models of CNS disorders
4. To check cognitive flexibility
5. To check anger-like behaviour in rats
6. To assess learning and memory
7. To assess motivation of rats
8. To assess anxiety-like behaviour
9. Assessment of neuropathic pain
10. Assessment of thermal hyperalgesia

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Sr. No.	Category	Charges in INR
1	Behavioral screening in rats (per animal/each paradigm)	1000 + 18% GST

David Kopf Instrument for Stereotaxic Surgery

Name: **David Kopf Instrument for Stereotaxic Surgery**
Model: 900LS
Specification:

1. Manipulator X, Y, Z adjustment
2. Angle adjustment
3. Rotation adjustment
4. Dorsal/ Ventral adjustment

Working principle: A stereotaxic device uses a set of three coordinates that, when the head is in a fixed position, allows for the precise position and location of brain sections. Stereotaxic surgery may be used to implant a cannula and electrodes in a specific area of the brain.
Features:

1. Quality, versatility
2. Combines student-level operating simplicity

Applications: Facilitates proper alignment of small or large animals for the stereotaxic placement of electrodes, micropipettes, cannula and other devices.
User information:

1. Begin surgery with clean and sterile surgical instruments.
2. Verify the depth of anaesthesia before surgery.
3. Scrape the skull and wipe it to remove blood.
4. Use stereotaxic coordinates and mark on the skull.
5. Make a single burr hole in the skull.
6. Insert the guide cannula at the targeted area.
7. Dental acrylic is applied around the cannula.
8. Allow the animal to recover for 7 days.

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Sr. No.	Category	Charges in INR
1	Surgery (per rat)	1500 + 18% GST

High-performance liquid chromatography-electrochemical detection (HPLC-ECD)

Name:**High-performance liquid chromatography-electrochemical detection (HPLC-ECD)**

Specification:

1. 10°-40° Working temperature
2. Programmable I/O functionality
3. Rear panel correction

Working principle: Using a separation column and mobile phase on an HPLC separates target compounds (analytes). After separation, the compounds present within the mobile phase enter the electrochemical detector (ECD). These are oxidized or reduced. Upon oxidation, free electrons are being released to the counter electrode.

Features:

1. Operate in DC
2. Operate in pulse and scan mode
3. Most sensitive detector

Applications: Neurotransmitter analysis

User information:

1. The HPLC room should be clean and dust-free.
2. Avoid cross-contamination of micropipette tips.
3. Room lights should be turned off during the dilution and injection of the sample.

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Sr. No.	Category	Charges in INR
1	Neurotransmitter analysis (per sample)	3000 + 18% GST

Microdialysis sample collection assembly

Name: Microdialysis sample collection assembly

Specification:

1. Fraction collector
2. Temperature controller
3. Tubing and tubing adapters

Working principle: Microdialysis is a technique for sampling the chemistry of the individual tissues and organs of the body, and applies animal studies. The basic principle is to mimic the function of a capillary blood vessel by perfusing a thin dialysis tube implanted into the tissue with a physiological liquid.

Applications:

1. Quantitative analysis of neurotransmitters
2. Collection of microdialysis samples

User information

1. Microdialysis room should be clean and dust-free.
2. Avoid cross-contamination of micropipette tips.

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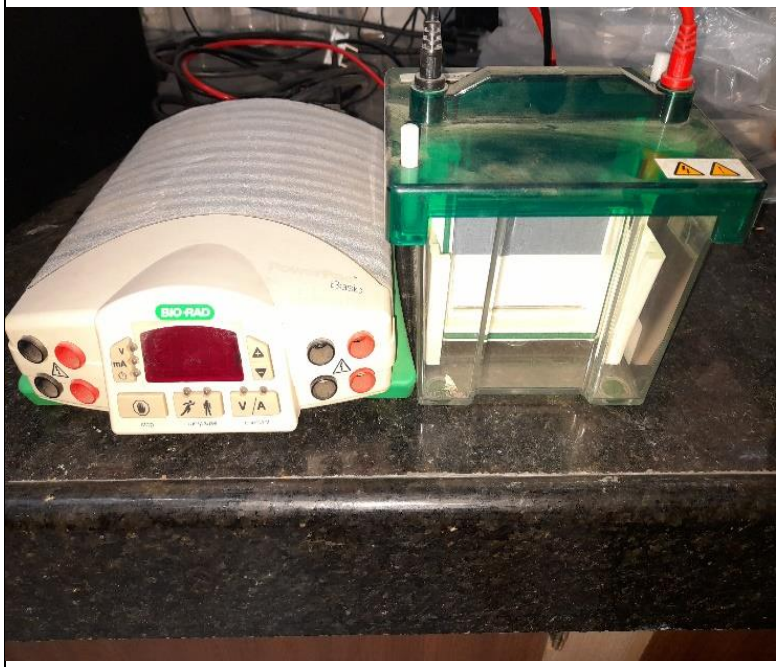
Sr. No.	Category	Charges in INR
1	In-vivo sample collection (per rat)	25000 + 18% GST

Western Blot Assembly



Name:Western Blot Assembly

Specification:

1. Rapid, high-resolution protein separation on precast or hand-cast gels over a variety of different gel sizes.
2. Power supplies provide simple programming in a compact and stackable case.
3. Automated gel imaging and documentation for research laboratories and cGMP manufacturing environments.

Working principle: In this technique, a mixture of proteins is separated based on molecular weight, and thus by type, through gel electrophoresis. These results are then transferred to a membrane producing a band for each protein. The membrane is then incubated with labels of antibodies specific to the protein of interest.

Applications:

1. Separation and identification of proteins.
2. Detection of a specific protein in a blood or tissue sample.

User information:

1. Block the membrane with an appropriate blocking agent.
2. Incubate with primary antibody.
3. Wash the membrane.
4. Incubate with secondary antibody.
5. Wash the membrane according to the recommended protocol.

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Sr. No.	**Category**	**Charges in INR**
1	Protein quantification (per sample)	3500 + 18% GST

Deep Freezer Storage

Name: **Deep Freezer Storage** (-20, -40 and -80 °C)

Model: Blue Star Ultra-Low temperature (-86 °C) Freezer; DW-HL218
Specification:

1. Rated voltage: 220-240V
2. Mass of refrigerant: 390g
3. Total net volume: 218 L

Application: Storage of biological samples and drugs

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Sr. No.	Category	Charges in INR
1	Ultra-Low temperature storage (per day)	200 + 18% GST

Aseptic working platform

1300 Series A2
Class II, Type A2 Biological Safety Cabinet

Name: **Aseptic working platform**
Model : Thermo Scientific 1300 Series A2 Class II
Specification :

1. Dual DC Motors Powering the Thermo Scientific Smart Flow airflow compensation system while delivering better energy efficiency and quieter operation. Night setback mode furthers energy savings and system longevity.
2. Smart Clean front window design Easily access the interior of the BSC by sliding down the front window.
3. Customizable worktops Equipment includes 2 Duplex receptacles and 6 ports for service valves (3 on each side).
4. Programable UV light Extends bulb life, saves energy and reduces maintenance. SmartPort convenience Clean and safe method of routing vacuum tubing and cables through the side walls, located on left and right sides.

Working Principle: It employs a unique airflow system that raises safety and containment to a new level. Independent supply and exhaust blowers automate balancing of downflow and inflow/exhaust velocities to ensure continuous safe working conditions.
Applications: cell culture, clinical research, life science research, microbiology, healthcare

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Sr. No.	Category	Charges in INR
1	Preparation of cell culture (per experiment) for cell line	2500 for preparation + 18% GST 500 per day for maintenance +18% GST
2	Preparation of primary cell culture	3000 per 24 wellplate for preparation + 18% GST 500 per day for maintenance+18% GST

Thermo Scientific 3100 Series Forma Series II

Model 3100 Series Forma Series II Water Jacket CO2 Incubator

Model : **Thermo Scientific 3100 Series Forma Series II**
Specification : Temperature 37 ^{0}C
CO^2 range:0 to 20%
O^2 range : 1-21%
Humidity: 95%
HEPA filter: Class 100
Detailed Specification available online on D01241.pdf (thermofisher.com)
Applications : Incubation of cell culture, OGD model development
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Sr. No.	Category	Charges in INR
1	Cell line incubation (per well plate)	500/day + 18% GST

ELISA Plus Microplate Reader

LISA Plus Microplate Reader
Rapid Diagnostic Version: Rapid 1.3e

Model : **ELISA Plus Microplate Reader**

Specification :

1. Large LCD display, with touch screen.
2. 96-well plate, multiple tests in the single plate.
3. Westguard Multi-rule, automated QC alert.
4. Plate shaking, speed and time adjustable.
5. Wavelength range : 340 – 850 nm Filters 8-position filter wheel, : The instrument is with the following standard filters installed: 405 nm; 450 nm; and 620 nm. (Additional filters can be ordered separately)

Working Principle : The working principle of a microplate reader is based on detecting light signals produced within a specific wavelength range by samples that have been pipetted into a plate. The optical properties of these samples are the result of a biological, chemical, biochemical, or physical reaction. The microplate reader detects the energy difference in light before and after passing through the test sample using a photoelectric colorimeter or spectrophotometer. This enables researchers to collect, analyze, and interpret data with exceptional precision, making these instruments indispensable tools in modern laboratories.

Applications : Clinical ELISA test analysis

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Sr. No.	Category	Charges in INR
1	Micro-well plate reading (per well-plate)	50 + 18% GST
2	ELISA test (per group)	1500 + 18% GST