



## **Criteria III**

### **Research, Innovations and Extension**

#### **Institution has the following facilities to support research**

##### **Central Instrumentation Facility**

Central Instrumentation Facility (CIF) with high throughput analytical instruments of the JamiaHamdard has been created to provide a centralized facility for research in the fields including pharmaceutical, biological, allied and interdisciplinary sciences. This facility fulfills the need by providing advanced analytical instruments to all academic research institutes and private industries/companies in and around Delhi.

##### **Animal House Facility**

Central Animal House Facility (CAHF) of JamiaHamdard is a supporting facility to conduct experimental research on small laboratory animals, with objectives to promote ethical use of animals for biomedical research according to the existing national and international norms and the principle of 3Rs – Replace, Reduce and Refine.

##### **Green House**

Green house of JamiaHamdard is equipped with instrument facilitating plant growth conditions including room temperature controller, photoperiod timer and humidity regulator. Additionally, all the three rooms are accompanied with air conditioners, cooling pads and proper electricity supply facilitating plant growth irrespective of their growing session.

##### **Museum**

JamiaHamdard has well maintained museum which is nicely lit and ventilated, organised systematically into various categories in HIMSAR. The specimens are available for the students, faculties and visitors.

##### **Media laboratory/Studios**

To train and facilitate the mass communication studnets and teachers in the effective integration to technology into teaching and learning JamiaHamdard provides technical and academic support.

##### **Research/Statistical Databases**

The center is developing computational and statistical methods to integrate the genotype-phenotype, protein-protein interactions and single cell transcriptomics datasets.

##### **Moot Court**

Hamdard Institute of Legal Studies and Research (HILSR), HILSR has a state of art moot court hall with proper judicial settings to help the law students and to nascent legal minds and enabling students to participate in external moot court competitions organized both nationally and internationally.

## **Theatre**

For art performances with a live audience in a JamiaHamdard a well equipped and stage has been provided.

## **Art Gallery**

JamiaHamdard has a beautifully designed art gallery at Convention Centre. Centrally air-conditioned, elegantly furnished and provided with all the modern amenities and offers an ideal facility for exhibition.

## **Additional Research Facilities**

### **Centre for Transgenic Plant Development**

The centre is working in the development of novel varieties of crops and medicinal plants with improved yield and quality of the plants. Also working to develop DNA based finger prints for authentication of traditional medicines.

### **Herbal Garden**

The herbal garden at JamiaHamdard spread over ~2 acres of land, the herbal garden boasts of important traditional medicinal and aromatic plants.

### **Neurobehavioral Facility**

Novel tools have been established in the Behavioral Tagging model for understanding the process of long term memory consolidation in brain.

### **Fly Facility**

This facility working extensively on development of alternative models to gain the mechanistic insights of the mechanism of neurodegenerative disorders.

### ***C. elegans* Laboratory**

The lab is well equipped with high-end Laminar flow, BOD incubator and stereomicroscope for the *C. elegans* facility.

### **Live Cell Imaging Facility**

This facility is used to test for cell viability and cytotoxicity after being exposed to various neurotoxins.

### **Confocal Laser Scanning Microscope**

The instrument uses a focused scanning laser to illuminate a subsurface layer of the specimen in such a way that information from this focal plane passes back through the specimen.

### **Transmission Electron Microscopy (TEM) Facility**

TEM used across a wide range of samples and applications, such as imaging of cells, cell organelles, asbestos, polymers, and soft materials, both at ambient and cryogenic temperature.

### **Nuclear Magnetic Resonance (NMR) Facility**

NMR is used in wide disciplines of medicine, chemistry, food technology and pharmacy to know about molecular structures of compounds.