Procedures and policies for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.

Infrastructural and laboratory facilities at the disposal of department are open to the enrolled students on the recommendation of teacher/Mentor/Supervisor. Students have access to any facility available in the department with a condition to follow the prescribed norms. These facilities are regularly maintained and upgraded by the concerned Head in consultation with departmental committees. The facilities available at university level such as USIC / Sports/Library Computer Centre are used by the students on the recommendation of concerned Head of the department and competent authority. Maintenance of centralized facilities is carried out at the university level. Besides the students, the faculty members have access to these facilities as per recommendation of concerned Heads of each section/department. All these facilities are available to faculty / students subject to prescribed rules and regulations. There are technicians, masons, plumbers, carpenters deputed by management who ensure the maintenance of classrooms and related infrastructure.

Laboratory

The University ensures optimal allocation and utilization of the available financial resources for maintenance and upkeep of different laboratories by holding regular meetings of various committees constituted for this purpose and using the grants received for various departments as per the requirements in the interest of students. Laboratory- Record of maintenance account is maintained by lab technicians and supervised by HODs of the concerned departments. Other measures to maintain laboratories are as follows:

- The calibration, repairing and maintenance of sophisticated lab equipments are done by the technicians of concerned firms.
- The microscopes used for biological and geological experiments are annually cleaned and maintained by the concerned departments and record of maintenance is maintained by lab technicians and supervised by HODs of the concerned departments.
- There is systematic disposal of waste of all types such as bio-degradable chemical/chemical and e-waste.
**Library**

The Gautam Buddha Central Library timings are on working day- 8:00 AM To 8:00 PM, on Saturday- 09:30 AM to 6:00 PM and Reading rooms daily- 8:00 AM to 2:00 AM (18 hours a day). The Library has been emphasized on maximum utilization of all the library resources through following services:

- Circulation, periodical, reference and thesis services for maximum utilisation of library resources.
- Cyber service for accessing the available e-resources through 25 computers with WIFI enabled.
- The Online Public Access Catalogue (OPAC) (i.e. http://14.139.228.238:8090/) for accessing the available library print resources.
- The Library website (i.e.http://14.139.228.238/) acts as a gateway to all the available print/e-resources.
- Member of E-SodhSindhu (National Consortium of e-Journals) for providing access of about 7000 e-Journals
- Member of SodhGanga (National repository of e-Thesis) for accessing e-Thesis.
- Plagiarism checking facilities of e-thesis/dissertations and e-articles of the University fraternity.

Reprography facility.

- Provides e-mail alert facilities to their users for circulation service.
- The library has research scholars section, Toppers Corner and new arrivals section.

- Library regularly conducts Information Literacy Program for maximum and effective utilization of Library resources.

- The library has been automated most of the activities and implementation of RFID is in process.

- Remote Access facilities to their uses for remote and maximum utilization of e-resources (in process of subscription for this year).
The requirement and list of books is taken from the concerned departments and Head of the Departments are involved in the process. The finalized list of required books is duly approved and signed by the Library Committee.

Every year in the beginning of session, students are motivated to register themselves in library to use INFLIBNET.

The Library has special facility for visually challenged students by setting up two special computers for them.

Suggestion box is installed inside the reading room to take users feedback. Their continuous feedback helps a lot in introducing new ideas regarding library enrichment.

To ensure return of books, ‘no dues’ from the library is mandatory for students before appearing in exam.

The proper account of visitors (students and staff) on daily basis is maintained.

Other issues such as weeding out of old titles, schedule of issue/return of books etc are chalked out/resolved by the library committee.
**Sports:** The University has 2 Volleyball Court, One Basket Ball, One Football Ground, 2 Long Tennis Court, one Badminton Court, 2 Kabaddy Court, one Khokho court, Gymnasium, 2 Table Tennis, Carrom and Chess Boards. Maintenance of all these is being done through Assistant Director, Sports. Every annual sports festival is conducted. Cricket tournament is also conducted inter School level.

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**Timings**

The timings of the Gymnasium (Under Ground, Central Library, BBAU Campus) will be as follows:

**Students/ Teachers/ Officers/ Employees:**
- **Morning** – 06:00 AM to 10:00 AM
- **Evening** – 03:30 PM to 07:30 PM

The timings of the out door/Indoor sports (Off Side of Hon'ble VC Residence, BBAU Campus) will be as follows:

**Students/ Teachers/ Officers/ Employees:**
- **Saturday**
  - **Morning** – 06:00 AM to 11:00 AM
  - **Evening** – 04:00 PM to 06:00 PM
- **SUNDAY CLOSED.**
Computer Centre [http://bbau.ac.in/ComputerCentre.aspx](http://bbau.ac.in/ComputerCentre.aspx)

Computer Centre was established in the year 2008; Computer Centre provides quality service to the University community in computing facilities.

It caters to the teaching/learning, research needs of various Schools, Departments, Centres, Community Centres and also needs of administrative sections of the University.

It helps researchers to get their research data analyzed, extends Internet facilities in the University, enables access to World Wide Web and provides laboratory facility to all the students and researchers of university.

It also manages and maintains various servers, computers and peripherals and also helps in design and development of software requirements of university from time to time.

**Services**

- Computer Centre supports an Local Area Network that connects all the academic units, hostels, library and other central facilities to the Computer Centre.
- BBAU main website maintenance and hosting.
- University Email server maintenance and hosting.
- Web based Application Development.
- Recruitment of Teaching and Non-Teaching posts is being managed through a Online Recruitment Portal during 2015-16.
- This portal designed and developed by Computer Centre.
- To date we have managed four online recruitment and details of the same is given below in the table.
- Live coverage of all major events including video conferencing & teleconferencing.
- High speed Internet browsing facility for all the students (UG, PG & Ph.D.).
- Preparation of their projects symposium & Seminars for all the students (PG & Ph.D.).
- Provides assistance to the student as and when required for their academic work.
- Provides computers hardware maintenance and support to all departments and sections which covers about 1000 computers and its peripherals.
- Provides technical assistance during the conferences / seminars & university functions etc.
- Designing, expansion and maintenance of campus wide network.
- Training programs for faculty, staff, research scholars and PG students
- Assist various departments of the University in computerizing their activities.
- Provided on site ICT support for various events conducted by the University and other government agencies:
- Full assistance provided in All North Zone Vice-Chancellors Conference.
- Providing complete assistance during Video Conferencing with President of India.
- Computer centre renders full support in purchasing of IT related products for establishment of ICT services.
IT & Network Infrastructure

Computing Equipment’s

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<tr>
<th>#</th>
<th>Equipments</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>1</td>
<td>Computer</td>
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<td>2</td>
<td>Server</td>
<td>07</td>
</tr>
<tr>
<td>3</td>
<td>UTM Firewall</td>
<td>01</td>
</tr>
<tr>
<td>4</td>
<td>NKN Proxy Server</td>
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<tr>
<td>5</td>
<td>Recruitment &amp; In House Mailing System Server</td>
<td></td>
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<tr>
<td>6</td>
<td>Web Server</td>
<td></td>
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<tr>
<td>7</td>
<td>LAN &amp; DHCP Server (Wi-Fi)</td>
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<td>8</td>
<td>Examination (COE Section)</td>
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<tr>
<td>9</td>
<td>Finance/ Account &amp; Admin (Finance section)</td>
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<tr>
<td>10</td>
<td>Printer &amp; Scanner</td>
<td>03</td>
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</tbody>
</table>

On Line UPSs

- Two Uniline 10 KVA online UPS are installed for power backup.
- One 6 KVA online UPS are installed for power backup.
- One Neo Power make 1KVA online UPS installed for providing power backup to Managed switch (L3 Layer).

- National Knowledge Network

- Internet services are being provided across the University using 1 Gbps bandwidth at Campus as part of NKN. At present more than 3500 nodes are connected on the network being served by 4 servers, 90 Wi-Fi access device, 14 RF (Radio Frequency devices) 75 switches & routers. Configuration & Model HP ProLiant ML 570 Server.
USIC (http://bbau.ac.in/USIC.aspx)

The University Grant’s Commission desires that every Central University must have University Instrumentation Centre. The creation of such centre is becoming obligatory for every university for the reasons that the modern day science demands the use of the precision equipments for the acceptability of the data. Such centers on one hand helps stop the duplication of the sophisticated equipments, which costs huge amounts of money and in turn helps in regulating the use of the sanctioned money in most judicious ways.

The University established Sophisticated Instrumentation Centre which is housed in the ground floor of the School for Environmental Science building. Four precision equipments, viz., Fourier Transform Infra-Red Spectrometer (FTIR) of Thermo-Scientific (Nicole 6700); Fast Performance Liquid Chromatograph (FPLC) of GE-Healthcare Bio-Science (AKTA 10); Scanning Electron Microscope of JEOL (JSM 6490 LV).

Equipments

*Scanning Electron Microscope (SEM):*

A Scanning Electron Microscope (JSM 6490) scans a focused electron beam over a surface to create an image. The electrons in the beam interact with the sample, producing various signals that can be used to obtain information about the surface topography and composition. It can be use both under low & high vacuums depending on the nature of the specimens. Low vacuum with low kV (energy) provides the user the longer duration for scanning the material, the organic specimens, before it is charged. The instrument has been coupled with an optional accessory, viz., EDS 133, EV Dry Detector (INCA x-act) of OXFORD instruments, UK, which has enhanced the application range in a manner that any metal associated with the biological material or in isolation or in the form of alloy may be identified and also quantified. The SEM facility has also been supported with the two important preparatory units, viz., Sputter Coater of JEOL, Japan (JFC 1600, Auto Fine Coater) and Critical Point Dryer (CPD) Emitech K 850 of Quorum Technology of UK.

*Fourier Transform Infra-Red Spectrometer (FTIR):*

Fourier Transform-Infrared Spectroscopy (FTIR) is an analytical technique used to obtain an infrared spectrum of absorption or emission of organic (and in some cases inorganic) materials. The FTIR has been supplemented with an accessory called Attenuated Total Reflectance (ATR) to enhance the use and application of the
instrument in way that with this facility any form of material, i.e., filmy/pellet; liquid, including liquids of flammable nature may be studied; rather that its limited use of getting spectra of the solids on the powdered form through making pellet by mixing the same with the KBr under a hydraulic press.

*Fast Performance Liquid Chromatograph (FPLC):*

Fast Performance Liquid Chromatograph (FPLC) is a form of medium pressure chromatography that is used to analyze or purify mixture of proteins and other biomolecules. The FPLC (main AKTA 10) has been provided with other accessories which include Sephadex G75, Sephacryl S – 200, Deae Sepharose Fast FL, CM Sepharose fast flow short & long column holders, AKTA user kit etc. to make the facility of broader usage.

*Minor Equipment available in USIC*

- High Speed Centrifuge Machine (CM12-Plus Remi)
- Vortex Mixer (CM101-Plus Remi)
- Double Distillation Unit
- Hot Air Oven
- Deep Freezer (-40oC)
- Electrophoresis
- UV Lamp
- Ultrasonic cleaner
- Microwave oven
- Magnetic Stirrer with Hot Plat
- Photoresist Spinner
- Refrigerator
University Sophisticated Instrumentation Center (USIC)

Office Order

The fees/charges for availing the USIC facility has been revised w.e.f. 21.01.2020 as follows:

<table>
<thead>
<tr>
<th>USIC Facilities</th>
<th>For Internal Users</th>
<th>For External Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEM without EDS</td>
<td>Sample preparation, Coating and Analysis Rs. 300/- per sample</td>
<td>Rs. 800/- per sample for National Laboratory and University</td>
</tr>
<tr>
<td>SEM with EDS</td>
<td>Sample preparation, Coating and Analysis Rs. 350/- per sample</td>
<td>Rs. 900/- per sample for National Laboratory and University</td>
</tr>
<tr>
<td>FPLC</td>
<td>Rs. 200/- per sample</td>
<td>Rs. 400/- per sample for National Laboratory and University</td>
</tr>
<tr>
<td>FTIR</td>
<td>Rs. 150/- per sample</td>
<td>Rs. 400/- per sample for National Laboratory and University</td>
</tr>
<tr>
<td>Spin coater</td>
<td>Rs. 50/- per sample</td>
<td>Rs. 100/- per sample</td>
</tr>
</tbody>
</table>

Prof. B. C. Yadav  
Director/In-charge, USIC

Copy to:-
1. All concerned Head/Deans
2. P.S. to Registrar
3. P.S. to F.O.
4. P.S. to V.C.
5. Website In-charge with a request to upload the same on the University website

Prof. B. C. Yadav  
Director/In-charge, USIC

Email: usicbbau@yahoo.com; Website: www.bbau.ac.in  
BBA University  
Lucknow-226025  
U.P., India
UNIVERSITY SOPHISTICATED INSTRUMENTATION CENTER (USIC)
Babasaheb Bhimrao Ambedkar University (A Central University)
Vidyavihar, Raebarely Road, Lucknow – 226025
(Email: usicbbau@yahoo.com)

PROFORMA FOR INTERNAL / EXTERNAL USERS

Requisition No. ______________________ (For Office Use Only)

Requisition Form for SEM  FPLC  FTIR  OTHER (Tick required facility)

<table>
<thead>
<tr>
<th>a. Name, Designation &amp; Address of Supervisor with Telephone Number and Email ID</th>
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<th>b. Name &amp; Designation of user with Telephone Number and Email ID</th>
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<th>c. Name of the Specimen / Tissue from Animal / Plant / Others</th>
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<th>d. Name of the fixative used duration Orientation required for viewing (SEM).</th>
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<th>e. Number of specimen to be processed for the proposed thesis / research work. Total Current</th>
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<tr>
<th>f. Name of the Project or Title of the proposed Thesis / Dissertation work</th>
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<th>g. Name of the Funding Agency (in case of funded Project)</th>
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<tr>
<th>h. Please give details of previous publications, if any, emerging out of the work carried out at the USIC by your group. The chief investigator / supervisor is requested to provide information regarding publications in due course as it is require to maintain the record.</th>
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<tr>
<th>S. No.</th>
<th>USIC Facilities Utilized</th>
<th>No. of Samples Analyzed</th>
<th>Output / Publication</th>
</tr>
</thead>
<tbody>
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Signature of Supervisor                  Signature of Head
Date & Official stamp                Date & Official stamp

Note: 1. In case of immersion fixation, minimal time should elapse between animal biopsy & fixation. Tissues should be fixed in 2.5% glutaraldehyde & 2% paraformaldehyde (PF), in 0.1 M phosphate buffer (pH 7.4) for 6-12 hr (depending on tissue type) at 4°C.
2. A maximum of 07 samples per performa will be accepted. Samples will be received between 11.00 A.M. – 03.00 P.M. Booking for SEM will be done at the time of depositing the samples.
3. It is mandatory to acknowledge the USIC, B. B. A. University, Lucknow in all the research publications emerging out from the work carried out through USIC facilities.

Declaration: I agree to all the terms & conditions of Data policy of USIC, BBAU, Lucknow.
A. Work Report: SEM/FTIR

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Sample received</th>
<th>Sample prepared</th>
<th>CPD</th>
<th>Coating prepared</th>
<th>Image Analysis / EDS</th>
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<td>Date No.</td>
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C. Allotment of time: SEM (HV/LV)

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<thead>
<tr>
<th>S. No.</th>
<th>Date</th>
<th>Register Ref.</th>
<th>Hours.</th>
<th>No of Images</th>
<th>Technical Support</th>
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<tbody>
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Date____________________

Staff-in-Charge (Technical)  
USIC, B.B.A. University  
Lucknow

Director  
USIC, B.B.A. University  
Lucknow