



## **A.V.COLLEGE OF ARTS, SCIENCE & COMMERCE**

(Affiliated to Osmania University)

Gaganmahal, Hyderabad-500029, Telangana

Phone: 040 – 27637751, www.avcollege.in

Accredited with 'B++' Grade by NAAC (3<sup>rd</sup> Cycle)

Vision: Empowerment Through Pursuit of Excellence

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

There are established systems and procedures for maintaining and utilizing physical, academic and support facilities such as laboratory, sports complex, computer, classroom etc in the institute. The physical facilities such as Laboratories, Classrooms, Library and Sports Complex are maintained by Housekeeping under the supervision of Non-teaching Staff .

#### **Housekeeping is supervised by the college caretaker.**

1. Ensuring availability of water in Toilets at all times and Cleaning them twice a day.
2. Ensuring availability of Drinking water in all floors
3. Cleaning Classrooms, Labs, Veranda, office room, staff rooms, furniture, campus gardens and grounds daily.
4. Checking furniture and taking stock in classrooms and offices every month .
5. Checking Building infrastructure throughout the campus for repair and minor alterations.
6. Checking of Electrical, Plumbing, Water drainage and Sewage system every month and delegating the work to the appointed electrician & plumber.
7. Entire campus is pest controlled by M/s Coomer & Coomer pest services.

#### **Maintenance of Laboratories Equipment.**

The respective faculty members, staff, lab assistants and other service personnel are given responsibility to maintain the equipment under their purview. Stock registers, log books, issue registers are maintained by the respective laboratory incharges to report entries and defects arising for rectification. All major repairs are identified and external expertise sought for maintenance of equipment.

Campus Wi-Fi is maintained by the Hardware staff.



## Computers

Maintenance of computers (Hardware and Software), updating software related to administrative and overall maintenance of campus infrastructure. Annual maintenance contracts for computers, copier machines, software, CCTV, Fire extinguisher, garden, security are in place. Policy is developed to maintain a balanced student and computer ratio, so that all students will be benefited for academic purposes.

**Sports** – Regarding the maintenance of sports equipment the Sports committee takes necessary actions and submits the requisition to the purchase committee where the Principal approves of it and purchase is done .

**Library** – The Library is automated with NEWGENLIB library software and all the in house activities done through this software. A proper account of visitors consisting of students and staff is maintained on a daily basis through library automation software NEWGENLIB.

At the beginning of the academic year all departments are allotted a budget for purchase of books. The required book-lists are submitted by all the HODs of all the departments to the Library committee. The finalized list of required books is duly approved and signed by the Principal.

The reading rooms and adjacent areas are maintained regularly and the students are sensitized to keep it clean and maintain silence.

Other issues such as weeding out of old titles, schedule of issue/ return of books etc. are resolved by the Library Committee. To ensure return of books, ‘no dues’ certification from the library is mandatory for students at the time of filling up the forms to appear in the final University examination



## **Maintenance procedure**

1. Library is open from 9:00 am to 4:00 pm on all working days. Library books will be issued between 10:00 am to 3:00 pm
2. Maintain silence and discipline in the library.
3. Library membership is given to students for Two academic years
4. Books in the library are arranged in Dewey Decimal Classification, subject wise to save the time of the users as well as staff.
5. The journals and magazines are renewed from time to time.
6. Orientation will be given at the time issue of the Library Cards, like, use of e-resources, issue, return and other library procedures.
7. Students can refer to the reference book in the library during library hours by submitting ID cards. They have to return the book on the same day
8. Books maintenance includes dusting and cleaning, shifting and rearrangement is done regularly.
9. Pest control also done on contract basis by Coomer & Coomer Pest Services

**Entire campus is under CCTV surveillance with 40 CC Cameras.**





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

#### Lab Maintenance Record – 2022-23

##### Department of Physics & Electronics

###### Lab Use and Maintenance

###### Use:

1. The primary users of the lab are students enrolled in courses offered by the Physics department such as B.Sc.(Electronics) and B.Sc. (Physics).
2. Other users include:
  - a. Students doing project work with any faculty member of the Physics Department can use the laboratory under the supervision of the concerned teacher.
  - b. Students working for Physics and Electronics Societies of the college can use the lab under the guidance of the staff advisors.
3. Students are not allowed inside the lab unless the faculty member is present. If they need to stay back and finish their experiments, they must get permission from the teacher concerned.
4. Students must be thoroughly familiar with the apparatus and the procedure before starting experiments.
5. Students should handle all devices, equipment, chemicals, and glassware with utmost care.
6. Students should not leave the laboratory without permission while performing any experiment.



7. If a mercury thermometer is broken, the teacher overseeing the laboratory should be informed immediately, as mercury is extremely poisonous. Care should be taken not to touch the spilt mercury with bare hands.
8. Eating is prohibited in the laboratory during the class.
9. The apparatus must be issued at the beginning of the laboratory class and should be returned after completion of the class.
10. The lights and fans should be switched off before leaving the laboratory.
11. All students are required to read and understand the detailed Physics Lab Safety Manual before they work in the lab. The Safety Manual can be accessed by clicking [here](#).

### **Maintenance:**

1. Faculty members, along with lab staff, perform stock checking of all the laboratory apparatus at the beginning of every semester.
  2. Every piece of equipment is numbered for identification.
  3. Every equipment is checked and tested for proper working before the beginning of laboratory coursework and then duly signed and dated by the testing authority.
  4. The lab maintains a stock register, an issuing register, a faulty equipment register, and a complaint register.
  5. The lab staff keeps a written receipt if any item is issued to any teacher with the signature of the teacher concerned.
  6. Any item issued to a student should be based on a receipt signed by the student concerned and the teacher in charge of the class.
  7. In case of any breakage of an apparatus, the students should immediately inform the concerned teacher and the lab staff.
  8. If a device or equipment becomes faulty while performing an experiment, the student should immediately report and write the nature of the fault along with its assigned number in the complaint register.
  9. The faulty components should be put in a separate box kept at the issuing counter.
- Physics & Electronics Lab Use and Maintenance



## Department of Chemistry

### **Chemistry Labs Use and Maintenance**

Inorganic Chemistry Lab-1, Organic Chemistry Lab-2, Physical Chemistry Lab -1

#### **Use:**

1. The primary users of the lab are students enrolled in M.Sc Chemistry
2. Students work with any faculty member of the Chemistry Department can use the laboratory under the supervision of the concerned teacher.
3. Students are not allowed inside the lab unless the faculty member is present. If they need to stay back and finish their experiments, they must get permission from the teacher conducting the lab.
4. Students must be thoroughly familiar with the apparatus and the procedure before starting experiments.
5. Students should handle all devices, equipment, chemicals, and glassware with utmost care.
6. Students should not leave the laboratory without permission while performing any experiment.
7. In all chemistry labs, Lab attender is available to help the students during the experiments, when dealing with the acids.
8. The apparatus must be issued at the beginning of the laboratory class and should be returned after completion of the class.
9. The lights and fans should be switched off before leaving the laboratory.
10. Concerned subject teaching staff explains safety rules to the students.



## **Maintenance:**

1. Faculty members, along with lab staff, perform stock checking of all the laboratory apparatus at the beginning of every semester.
2. Faculty members, along with lab staff check the chemicals required for experiment before semester start and enter the chemicals in the requirement book.
3. Every equipment is checked and tested for proper working before the beginning of laboratory coursework and then duly signed and dated by the testing authority.
4. The lab maintains a stock register, an issuing register, a faulty equipment registers, and a complaint register.
5. In case of any breakage of an apparatus, the students should immediately inform the concerned teacher and the lab staff.
6. If a device or equipment becomes faulty while performing an experiment, the student should immediately report and write the nature of the fault along with its assigned number in the complaint register.
7. All the labs are cleaned after completion of the experiments and asked the students to wash their hands with hand wash after the lab.

## **Lab Maintenance Procedure**

The Department of Chemistry is maintaining the registers for the smooth functioning of labs. When students enter the lab wearing lab coats, we issue the apparatus by notifying their roll numbers in the register. If any instrument (or) apparatus (or) lab reagents are not available, students will identify then they inform the lab staff to record the particulars in the register. If any student damages any instrument (or) glassware it will be recorded in a separate breakage register. The following precautions will be taken to maintain the lab maintenance registers.



### 1. Calibration and Maintenance record of instruments

Lab is looking to remain as efficient or eco-friendly as possible. For smooth operations, the important points of lab maintenance. Keeping the lab clean is the first tenet of lab maintenance. In addition, it's the simplest, cheapest and most obvious way to keep the lab in great shape. It's best to hold all lab personnel accountable for cleanliness. Firstly, make sure to wipe down equipment at the end of the day. Decontamination services should regularly be used for equipment and centrifuges. When it comes to our equipment, always consult the manual or manufacturer specifications for cleaning certain instruments, like PH Meter, Potentiometer, and colorimeter and conductivity meter, require regular cleaning. By using a 70/30 mixture of ether and alcohol, you can sanitize instruments and prevent the spreading of harmful bacteria.

### 2. Lab Equipment Calibration

Keeping our lab instruments in good condition is crucial, even maintaining equipment that doesn't produce data to our lab. Basically, equipment calibration guarantees that our instruments produce reliable data. Above all, it's important to keep in mind that failing to calibrate our equipment will not only hurt our accuracy; it could lead to significant disruptions.

We regularly consult a professional calibration service and schedule regular appointments.

Ultimately, this will ensure our equipment remains reliable.

### 3. Lab Equipment Repairs

When it instrument comes to disrepair, never immediately dispose of anything. See if there's a way to repair the equipment first, centrifuges and filtration systems can all be repaired in simple ways without replacements.





#### **4. Replacements**

Undoubtedly, no matter how stringent in cleaning and maintenance, replacements are sometimes necessary. In many cases, the less expensive replacement models can seem like the best choice. Unfortunately, in the long-term, this can actually cost your lab more money. Usually, lower cost means lower quality. Ultimately, this means the equipment is more prone to disrepair. High quality equipment has several enormous benefits. Aside from being more durable, it's easier to find replacement parts for. Additionally, cleaning and maintenance is usually much easier. Essentially, whenever possible, it will benefit our lab to select high quality equipments

#### **5. Environmental Conditions records**

Environmental conditions such as temperature and humidity are necessary for conducting analysis and ensuring long service life of analytical instruments. Exposure to correct light intensity is also necessary for optimum control over light sensitive materials and reactions. Record keeping of such conditions is therefore a necessity. Such records are also helpful for re-verification of results and to ensure that the instruments work under specified conditions. Authentication of analysis conditions is an essential requirement of regulatory agencies.

#### **6. Calibration and Maintenance record of instruments**

The results of any analysis are reliable only when the instruments are properly maintained and calibrated as per supplier recommendations. Calibration observations and supporting records also deserve to be preserved for reference at any point of time.



## 7. Log records

Logs are tamper- proof records on laboratory instruments, environmental conditions and consumption of critical laboratory supplies. It is mandatory to maintain separate record for each instrument. Further separate records are needed- one for instrument history and the other for its usage. The history record essentially includes date of purchase, date of instrument arrival, system configuration and software details, maintenance and calibration records, and listing of authorized users with specimen signatures for subsequent verification. The usage record covers details such as date of use, name of user, name of sample analyzed, quantity weighed in case of analytical balance and remarks if any unusual behavior is noticed.

## Department of Clinical Nutrition and Dietetics

### **Procedure for laboratory utilization:**

1. Nutrition lab is utilized depending on the requirements of different courses of B.sc for BCCN, ZCCN and BZCN.
2. The labs are allotted to the students based on the time-table designed by the department.
3. CO's and PO's of the laboratory course of particular semester are briefed to the students on their very first class.
4. The students do the lab experiments under the supervision of concerned faculty.
5. Every student maintains observation book and record book. After lab is completed, the students need to write observation in the observation book. After faculty verification and correction, it will be carried out to lab record.
6. Turn off the stoves and oven after usage.

### **Procedure for laboratory maintenance:**

1. The students are given instruction in handling the equipment before doing the experiments.
2. Aprons, hand gloves are made mandatory to the students for safety purpose.
3. Personal hygiene is maintained during cooking sessions.



4. The working conditions of the equipment are periodically checked.
5. The HOD sends lab equipment requirements from time to time to the principal for the purchase.
6. The issues of maintenance and repair of equipment is taken care of by the annual maintenance agencies.
7. All labs are regularly cleaned by the cleaning staff.
8. Laboratory waste is disposed of from time to time as per the norms



## Department of Business Management

### **Laboratory Utilization and Maintenance**

#### **Computer Lab utilization**

1. The lab is utilized depending on the requirements of different programs.
2. There is a faculty lab in-charge and a lab assistant to take care of all activities in the lab.
3. CO's and PO's of the laboratory course are briefed to the students on their very first class.

#### **Maintenance of Lab**

1. The HOD sends lab equipment requirements from semester to semester, to the principal for the purchase.
2. The principal follows the usual purchase procedure of the college and purchases the equipment for the department labs.
3. All labs are regularly cleaned by the cleaning staff.
4. Laboratory E-waste is disposed of from time to time as per the norms.
5. The lab assistant takes care of stock register, maintenance register, complaints register and the log register.



## Department of Biotechnology (PG)

### **Biotechnology Labs Use and Maintenance**

Bioinformatics & Protein engineering (computer lab) Plant biotechnology Tissue Culture Lab  
Microbiology, Biochemistry Lab & Cell Biology.

#### **Use:**

1. The primary users of the lab are students enrolled in M.Sc Biotechnology Department
2. Other users include:
  - i) Students doing project work with any faculty member of the Biotech Department can use the laboratory under the supervision of the concerned teacher
3. Students are not allowed inside the lab unless the faculty member is present. If they need to stay back and finish their experiments, they must get permission from the teacher conducting the lab.
4. Students must be thoroughly familiar with the apparatus and the procedure before starting experiments.
5. Students should handle all devices, equipment, chemicals, and glassware with utmost care.
6. Students should not leave the laboratory without permission while performing any experiment.
7. In biochemistry lab, Lab attender is available to help the students during the experiments, when dealing with the acids.
8. Eating is prohibited in the laboratory during the class.
9. The apparatus must be issued at the beginning of the laboratory class and should be returned after completion of the class.
10. The lights and fans should be switched off before leaving the laboratory.
11. Concerned subject teaching Staff explain safety rules to the students.



## **Maintenance:**

1. Faculty members, along with lab staff, perform stock checking of all the laboratory apparatus at the beginning of every semester.
2. Faculty members, along with lab staff check the chemicals required for experiment before semester start and enter the chemicals in the requirement book.
3. Every equipment is checked and tested for proper working before the beginning of laboratory coursework and then duly signed and dated by the testing authority.
4. The lab maintains a stock register, an issuing register, a faulty equipment registers, and a complaint register.
5. In case of any breakage of an apparatus, the students should immediately inform the concerned teacher and the lab staff.
6. If a device or equipment becomes faulty while performing an experiment, the student should immediately report and write the nature of the fault along with its assigned number in the complaint register.
7. All the labs are cleaned after completion of the experiments and asked the students to wash their hands with hand wash after dealing with microbial cultures.



## Department of Computer Science

### Lab Maintenance Procedure

Computer labs give many students access to computer programs and the internet. Department has 2 labs namely LAB1 & LAB2 with 36 and 30 systems respectively and every student has one-to-one access.

Consult faculties supervise the sessions of practicals every day. In each session there are around 30 students.

Computers are often used by different students for computer training. There may be risk from viruses, corrupt files and malfunction. Maintaining the lab computers regularly in order to ensure that they don't crash prematurely. Periodically checking any unwanted files and any videos and other miscellaneous objects. Setup weekly updates or automatic updates for labs. Install an antivirus program on computers. Using the hard disk cleanup and defragmentation utilities regularly. Cleaning the labs regularly and at the end of the day make sure that they are all shut down.

While doing practicals if any system doesn't work properly then the consult student raises the complaint by registering in the complaint book. The problem will be rectified by the technical support and solved within 2 days.

