



DR. C.V. RAMAN UNIVERSITY

Chhattisgarh, Bilaspur

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MAINTENANCE POLICY



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1. THE POLICY

The University Maintenance Committee (UMC) of Dr. C.V. Raman University under the CVRU Maintenance System (CMS) is responsible for managing the maintenance in CVRU campus which functions in the most cost-effective manner possible while maximizing the useful life of units and properties and striving to provide the best service to the users. The following policy statements are designed to establish the structure of an effective and efficient maintenance system at Dr. C.V. Raman University (CVRU).

1.1 Objectives: The overall objective of the CVRU Maintenance Department is to maintain, throughout its expected useful life, the interior and exterior of its buildings, the grounds, and the roadways, and all fixed and moveable equipment through preventive maintenance and repairs.

Further, this objective is specifically intended to provide:

- Buildings and their components that function safely and it's at top efficiency.
- Facilities and equipment that minimize the possibility of fires, accidents, and safety hazards.
- Continuous use of facilities without disruptions to the educational programs.
- Protection of University property through proper planning, scheduling, and preventive maintenance.
- Quality management of maintenance projects and tasks.
- Conservation of energy through utilization of the latest technology and energy conservation measures.
- A quality maintenance program through effective management and efficient utilization of resources.

1.2 Procedures to maintain & upkeep the academic infrastructure, equipment, furniture & other campus facilities:

- Under the CVRU Maintenance System (CMS) along with the University maintenance committee (UMC), the University buildings are maintained by the CVRU Civil Construction Supervisor (CCS) and it is further monitored by the HOD of Civil Engineering.
- The electrical Installations, waterlines are maintained by the departmental Supervisor of the Electrical Section of the maintenance committee (UMC) which is further monitored by the HOD of Electrical Engineering.
- The vehicles are maintained by the supervisor of Transport section of the UMC and the repairs of the vehicles are outsourced, whenever necessary.



- Department wise stock registers & Lab-Stock registers are kept & maintained by the concerned laboratory-in-charge under the observation of the respective Head of the Department.
- Department wise annual stock verification is done by a committee formed by the Dean of Faculty & thereafter audit takes place.
- Regular maintenance of laboratory-equipment, apparatus, glassware and chemicals are done by laboratory-in-charge of concerned Laboratory.
- Overall Cleanliness of the campus is done by House Keeping Section of the university under the supervision of the University Maintenance Committee (UMC).
- Regular cleaning of water tanks, proper garbage disposal, pest control, landscaping and maintenance of lawns are done by University House Keeping Section and Gardening Staff.
- The CVRU campus maintenance is monitored through regular inspection.
- To upkeep all facilities and cleanliness of environment in hostels & staff quarters, outsourcing is done, whenever necessary, for maintenance and repairing of IT infrastructure such as computers, internet facilities including Wi-Fi and broadband, updating of software by computer hardware technician.
- The maintenance of the reading room and stock verification of library books is done regularly by library staff.

For the purpose of implementing these policies and procedures a University Maintenance Committee (UMC) is formed out of the members of the CVRU Maintenance System (CMS) and the technical staff of CVRU as organized below.

2. ORGANIZATION OF MAINTENANCE COMMITTEE

The University has a maintenance committee named as University Maintenance Committee (UMC) under the CVRU Maintenance System (CMS) which is organized as given below:

- Convener (Overall)
- Co-Convener (Technical)
- Co-Convener (Facilities)
- Manager (Technical)
- Manager (Facilities)
- Departmental Supervisors
- Departmental Technicians



The Convener and the Co-Conveners of the Maintenance Committee of CVRU will occupy the similar responsibilities of the Maintenance department bearing to proper repairing & maintenance of all the CVRU resources & infrastructure. The Co-conveners will have a set of maintenance teams each for the works assigned to them. The Co-conveners shall report to the Convener who in turn will report to the Deputy Registrar Admin.

3. DIVISION OF WORK

The various maintenance works identified are grouped under two broad heads: 'Facilities' and 'Technical', the former covering civil works and the latter covering mechanical, electrical and other support systems. One Co-convener is assigned to each one of these groups. The following are the broad areas covered by these two heads along with their maintenance support systems.

(a) Housekeeping (b) Asset Information (c) Furnishings (d) Generators (e) Street Lighting (f) Air conditioning (g) Lighting & Ventilation systems (h) Energy Management System (EMS) (i) Electrical (j) Tools & Equipment (k) Computers & IT installation (l) Safety Systems (m) Lift Systems (n) Security Systems (o) Library System (p) Rainwater Harvesting (q) Drainage (r) Unit Recovery/ Vacancy Reoccupation (s) Waste Disposal (t) Pest Control (u) Landscaping (v) Laboratories & Workshops (w) Water Supply System (x) Sanitation 6') Roads, Buildings & Lands (z) Painting & Minor Repairs.

4. COMPONENTS OF THE CVRU MAINTENANCE SYSTEM (CMS)

- 4.1 The CVRU maintenance system shall include the following components:
- 4.1 A. Prioritization of Work
- 4.1 B. Work procedures
- 4.1.C. Performance standards
- 4.1 D. Work order system
- 4.1 E. Training and Improvements
- 4.1 F. Long-range planning
- 4.1 G. Maintaining the property

By developing a maintenance system that has these components in place, the Management will have the tools it needs to control the performance of maintenance work at Dr. C.V. Raman University.

4.1 A. Prioritization of Work (PW)

(a) The work priorities adopted by CVRU exemplify its philosophy of delivering maintenance services. This priority system ensures that the most important maintenance work is done at a time it



can be performed most cost-effectively. Minimizing vacancy loss is part of the cost-effectiveness calculation. 'Vacancy' refers to unused or unusable condition of a unit or facility or space.

- (b) The maintenance priorities of CVRU are marked by the Departmental Manager in the Work Request as ordered as below:
 - Emergency Repairs
 - Preventive Maintenance
 - Unit Recovery / Vacancy Reoccupation
 - User/ Occupant Requests
 - General Cleaning
 - Inspection
 - Miscellaneous
- (c) Preventive maintenance and vacancy preparation works are important to maintain control of the maintenance work by performing scheduled and preventive work first. By doing so, the authority will decrease on-demand work and maintain the property in a manner that will keep its usable condition high.

4.1 B Work Procedure (WP)

- (a) The Co-conveners will ensure that there are sufficient clear procedures in place, for the works charged to them, to allow staff to implement this maintenance policy statement. All procedures will include the following:
 - A statement of purpose
 - The job title(s) of the staff member(s) responsible for carrying out the activities in the procedure
 - Any forms needed to carry out the activities; and
 - The frequency of any specified activities.

After their adoption, maintenance procedures will be reviewed and updated at least annually.

(b) Task List will be prepared for each maintenance work and will be followed diligently when carrying out the maintenance activities. The Task List will be reviewed and updated annually.

4.1 C. Performance Standards (PS)

(a) The Co-conveners and their Managers will establish measures that will allow the effectiveness of maintenance systems and activities to be evaluated. In establishing these standards, the Co-conveners will take into consideration certain factors:



- Local/ State Building and Fire Safety requirements
- Department Town & Country Planning requirements (DTCP)
- Electricity Board requirements, (Chhattisgarh State Electricity Board, CSEB/CSPDCL)
- CVRU agreements/ contacts & other state Govt. policies (if any)
- CVRU job descriptions of the staff assigned
- (b) The CVRU Maintenance Committee may also set a standard that is higher than that contained in the above documents. These standards and goals will be used to evaluate current operations and performance and to develop strategies to improve performance and meet the standards that have been set.

4.1 D Work Order System (WOS)

- (a) The Maintenance Cell shall have a comprehensive work order system that includes all work request information: source of work, description of work, priority, cost to complete, days to complete, and hours to perform. This information is required for the Management to approve the work and to evaluate performance. To obtain the greatest effectiveness from the work order system, all work requests and activities performed by maintenance staff must be recorded on work orders.
- (b) Work orders will contain, at a minimum, the following information:
 - Pre-printed number
 - Source of request (planned, inspection, user, etc.)
 - Priority assigned
 - Location of work
 - Date and time received
 - Date and time assigned
 - Worker(s) assigned
 - Description of work requested (with task number from the Task List)
 - Description of work performed (with task number from the Task List)
 - Estimated and actual time to complete
 - Materials used to complete work
 - Estimated and actual cost
 - Amount charged to the user

4.1 E. Training and Improvements (T&I)

(a) In order to allow its staff members to perform to the best of their abilities, CVRU, recognizes the importance of providing the staff with opportunities to refine technical skills, increase and expand



craft skills, and learn new procedures and practices. Each employee must participate in at least maximum hours of training annually.

- (b) Suggested training subjects may include (but not limited to)
 - Safety Procedures
 - ► Health and Safety Standards
 - Trade specific skills updates
 - Building Code updates
 - > Trends in campus amenities
 - Modernization of laboratories
 - Removal of obsolescence
- (c) The Co-convener along with the Professional development & training cell of CVRU is responsible for developing a training agenda/ curriculum for the training and for working with the related department staff to identify the means of delivering the training.

4.1.F. Long Range Planning (LRP)

- (a) Dr. C.V. Raman University will put in place and maintain a long-range maintenance planning capability in order to ensure most cost-effective use of the university-resources and maximum useful life of the university properties.
- (b) The Co-convener and the Managers will develop a property-specific longrange planning process that includes the following components:
 - A property maintenance standard;
 - An estimate of the work required to bring the property to the maintenance standard;
 - An estimate of the work required to keep the property at the maintenance standard including routine and preventive maintenance workloads, vacant unit reuse/ reoccupation, inspection requirements and on-demand work;
 - An estimate of the on-going cost of operating the property at the maintenance standard;
 - A market analysis of the property to determine if there are any capital improvements needed to make the property more competitive;
 - A cost estimate to provide the specified capital improvements; and
 - A revised work plan and cost estimate of maintaining property improved standard.
- (c) By developing a work plan, the university authority will be able to anticipate its staff, equipment and materials needs. It will also be possible to determine need for contracting particular services.



4.1.G.Maintaining the Property (MTP)

- (a) All maintenance work performed at CVRU properties can be categorized by the source of the work. Each piece of work originates from a particular source: _
 - 4.1 G. 1 an emergency through maintenance responding to emergencies (MRTE)
 - 4.1 G.2 maintenance unit recovery/vacancy reoccupation (MUR/VR)
 - 4.1 G.3 preventive maintenance program (PMP)
 - 4.1 G.4 a unit inspection by maintenance inspection program (MIP)
 - 4.1 G.5 the routine maintenance schedule, (RMS)
 - 4.1 G.6 user-on-demand services (UODS)
 - 4.1 G. 7 a unit turnover or a user request by contracting for services (CFS)

4.1 G. 1 Maintenance Responding to Emergencies (MRTE)

- (a) Emergencies are the highest priority source of work. The Maintenance Committee will consider a work item to be an emergency if the following occur:
 - The situation constitutes a serious threat to the life, safety or health of users/ residents or staff; or
 - The situation will cause serious damage to the property structure or systems if not repaired within twenty-four hours.
- (b) If a staff member is unsure whether or not a situation is an emergency, he or she will consult with his or her HoD/related Manager. If the HoD/Manager is not available, the employee will use his or her best judgment to make the decision.
- (c) For emergencies that occur after regular working hours, the (UMC) University Maintenance Committee shall have a 24 hrs. emergency response system in place, wherever it is necessary. This response system includes the designation of a maintenance employee in-charge for each day as well as a list of qualified preapproved contractors, open purchase orders for obtaining required supplies or equipment, and access to campus materials and supplies. The designated employee shall prepare a work order and report to the Convener/ Co-Convener on any emergency number within twenty-four hours after abatement of the emergency.

4.1 G.2 Maintenance Unit Recovery / Vacancy Reoccupation (MUR/VR)

(a) It is the policy of the CVRU Management to reoccupy/recover the vacant/ impaired units as soon as possible. This policy allows the university to maximize the utilization of its properties and operate them in safe conditions. 'Unit' refers to all properties like built space, facilities, machinery, tool, equipment, plants and furniture etc.



- (b) The Co-convener and the related Manager, along with HOD, are responsible for developing and implementing a system that ensures an average turn-around time of seven (7) calendar days. In order to do so, they must have a system that can perform the following tasks:
 - Forecast unit preparation needs, based on previous years' experience
 - Estimate both the number of units to be prepared and the number of hours it will take to prepare them; and
 - Control work assignments to ensure prompt completion.
- (c) The maintenance procedure for reoccupying vacant units relies on the prompt notification by the HOD of the vacancy, fast and accurate inspection of the unit, ready availability of workers and materials, and good communication with those responsible for the unit. The Co-convener and Manager will have the ability to create special teams for vacancy turnaround or to hire contractors when that is required to maintain CVRU goals.

4.1 G.3 Preventive-Maintenance-Program (PMP)

(a) Preventive-maintenance is a part of the planned or scheduled maintenance program of the Maintenance Cell. The purpose of the scheduled maintenance program is to allow the university to anticipate maintenance requirements and make sure the university can address them in the most cost-effective manner. The preventive maintenance program focuses on the major systems that keep the properties in usable condition. These systems include air conditioning, electrical, life safety, water supply and plumbing.

4.1 G.3.1 General Operating Systems (GOPS)

- (a) The heart of any preventive maintenance program is a schedule that ensures the regular servicing of all systems. The development of this schedule begins with the identification of each system or item that must be checked and serviced, the date it must be serviced, and the individual responsible for the work. The servicing intervals and tasks for each system must be included in the schedule with general operating systems (GOPS). The completion of all required tasks is considered a high priority for the maintenance department.
- (b) The systems covered by the preventive maintenance program include but are not limited to:
 - Storm Drainage
 - Pumps
 - Emergency lighting
 - Exhaust fans
 - Exterior lights



- Fire extinguishers and other life safety systems
- Mechanical equipment and vehicles
- Sanitary drains
- AC systems
- Water supply
- (c) A specific program will be developed for each system. This program shall include a list of the scheduled service maintenance for each system and the frequency and interval at which that service must be performed. The equipment and materials required to perform the service will also be listed so that they will be available when needed. An assessment of the skills or licensing needed to perform the tasks will also be made to determine if an outside contractor must be used to perform the work. The preventive maintenance schedule must be updated each time a system is added, updated, or replaced.

4.1 G.3.2 Roof/ Terrace Repairs & Replacement (RR)

- (a) Maintenance of roofs and terrace requires regular inspections by knowledgeable personnel to ensure that there is no unauthorized access to roof surfaces and that there is good drainage, clear gutters and prompt discovery of any deficiencies. The Co-convener and the Manager of the University Maintenance Committee (UMC) under the CVRU-Maintenance System (CMS) are responsible for the development of a roof maintenance plan that includes these features:
 - The type, area, and age of roof
 - Company/ contractor that installed the roof
 - Expected useful life of roof
 - Warranties and/or guarantees in effect
 - History of maintenance and repair
 - Inspection schedule
- (b) The CVRU maintenance staff will usually undertake the minor roof repairs. Therefore, there should be a list of approved contractors to take on more serious problems for roofs/ terraces that are no longer under warranty.

G.3.3 Vehicle/ Equipment Maintenance (VM)

- (a) CVRU will protect the investment it has made in vehicles and other motorized equipment by putting in place a comprehensive maintenance program. The vehicles and equipment to be covered include (but are not limited to):
 - > Cars, buses, vans,
 - Battery-powered Vehicles



- Trucks and Tractors
- Weed cutters
- Lawn Movers
- Motors & Power tools etc.
- (b) The Co-convener and the Manager are responsible for the development of this plan which shall contain components for minimal routine service as well as servicing for seasonal use. Serviceable components for each vehicle or piece of motorized equipment will be listed in the plan along with the type and frequency of service required.
- (c) The Co-Convener and the Manager shall also maintain a system to ensure that any employee that operates a vehicle or piece of motorized equipment has the required license or certification.

4.1 G.3.4 Life Safety Systems (LSS)

- (a) CVRU shall have a comprehensive program for maintenance of life safety systems to ensure that they will be fully functional in the case of an emergency. The Co-convener and the Manager shall be responsible for the development and implementation of a schedule that includes inspection, servicing and testing of this equipment.
- (b) Below is a list of Life Safety items that are routinely handled:

TYPE/ CATEGORY	ITEMS
Environmental Protection	Prevention & Control — Transformers, generators, fuel tank, grease traps; Disposal of fluorescent lamps, LED lamps, plastic wastes, metal wastes, other e-wastes & chemical wastes etc. Biogas Plant & High-Voltage Lab of Electrical Engineering
Disability Provisions	Doors, access ramps, restrooms, parking, sidewalks, divyangjanwashrooms etc.
Emergency Lighting	Exit lights, generator power for lights, parking lights, street lights, walkway lighting, solar-lights etc.
Fire Prevention	Fire alarms, fire extinguishers, High-Voltage Lab of Electrical Engineering, sprinklers, fire pumps, fire suppression systems, inflammable items/ chemicals etc.



4.1 G.4 Maintenance Inspection Program (MIP)

- (a) The University's goals of efficiency and cost-effectiveness are achieved through ensuring that the facilities are maintained in a manner that is neat, safe, and sanitary and in good repair. This program ensures compliance of the Local and State Building and Fire Safety Codes.
- (b) In any case where there is a conflict between two or more standards/ regulations the more restrictive of them will be applied.
- (c) The inspection will encompass the following areas:
 - Building Systems
 - Building Exteriors
 - Labs & Other facilities
 - Common Areas
 - ➤ Site (Grounds)
 - Residential Units
 - Health and Safety
- (d) The Co-convener and the Manager will know at all times the condition of each unit. The achievement of these goals may require more than the minimum annual inspection. The Co-convener is responsible for developing a unit inspection program that schedules inspections at the frequency required.
- (e) For all non-emergency inspections, the user shall be given at least two days' notice (by email/other notification) of the inspection. The Maintenance staff shall normally perform the unit inspection program of unless it is determined that the inspection program is contracted to an outside source.
- (f) During each inspection, the staff shall perform specified preventive and routine maintenance tasks. Any other work items noted at the time of the inspection will be documented on the Dr. C.V. Raman University inspection form. All incomplete (non-completed) work items shall be converted to a work order within twenty-four hours of the completion of the inspection. The maintenance staff shall endeavour to complete all inspection-generated work items within 30 days of the inspection.
- (g) All Maintenance Staff are responsible for monitoring the condition of Residential units (hostels, guest houses, staff quarters, etc.). Whenever an Inspection or Maintenance staff member enters a Residential unit for any purpose, such as completing a resident request for service or accompanying a contractor, he or she shall record on an inspection form any required work he or she



sees while in the unit. These work items shall also be converted to a service request within twentyfour hours of identification and reporting.

(h) Nothing in this policy shall prevent any CVRU staff member from reporting any needed work that they see in the regular course of their daily activities. Such work items shall be reported to the Manager of the appropriate property either directly or through HoD.

4.1 G.5 Routine Maintenance Schedule (RMS)

(a) This work category includes all tasks that can be anticipated and put on a regular timetable for completion. Most of these routine tasks are those that contribute to the appeal and comfort of the property.

4.1 G.5.1 Pest control/ Extermination (PC)

- (a) CVRU will make all efforts to provide a healthy and pest-free environment for its residents. The Maintenance cell/committee will determine which, if any, pests infest its properties and will then provide the best possible treatment for the eradication of those pests.
- (b) The Co-convener and the Manager will determine the most cost-effective way of delivering the treatments --whether by contractor or licensed authority personnel.
- (c) The extermination plan will begin with an analysis of the current condition at each property. The Co-convener and the Manager shall make sure that an adequate schedule for treatment is developed to address any existing infestation. Special attention shall be paid to rats and cockroaches. The schedule will include frequency and locations of treatment. Different schedules may be required for each property.
- (d) Residents' cooperation with the extermination plan is essential. All rooms in a building must be treated for the plan to be effective. All residents will be informed at least one week and again twenty-four hours before treatment. The notification will be in writing and will include instructions that describe how to prepare the unit for treatment. If necessary, the instructions shall be bi-lingual to properly notify the resident population.

4.1 G.5.2 Landscaping and Grounds (LG)

- (a) The Co-convener and the Manager will prepare a maintenance schedule for the maintenance of the landscaping and grounds of the university campus that will ensure their continuing attractiveness and usability. This will include:
 - Care of Hedges & Litter control
 - Lawn care
 - Maintenance of driveways, sidewalks and parking lots



- Care of flower and shrubbery beds and trees in the CVRU campus garden
- Maintenance of playgrounds, benches and fences.
- (b) The Co-convener and the Manager shall be responsible for the development of a routine maintenance schedule that shall include:
 - A clearly articulated standard of appearance for the grounds that conforms to, but is not limited to, any local code standards;
 - A list of tasks that are required to maintain that standard and the frequency with which the tasks must be performed;
 - The equipment, materials, and supplies required to perform the tasks and a schedule for their procurement.

4.1 G 5.3 Building Common Areas (Exterior and Interior) (BCA)

- (a) The appearance of the outside of the university buildings as well as their interior common areas is important to their appeal. Therefore, the Maintenance Committee will establish a maintenance schedule to ensure that they are always maintained in good condition. The components to be maintained include:
 - Lobbies and Verandahs
 - Hallways and stairwells
 - Restrooms (Common & Private)
 - Lighting fixtures
 - Common rooms and community spaces
 - Exterior porches and railings
 - Building walls
 - Windows
- (b) The Co-convener and the Manager are responsible for the development of a maintenance schedule for building exterior and interior common areas. The schedule shall be based on the following:
 - A clearly articulated standard of appearance for the building
 - A list of tasks required to maintain that standard
 - The frequency with which the tasks must be performed
 - A list of materials, equipment and supplies required to perform the tasks.



4.1 G.5.4 Exterior & Interior Painting (EIP)

- (a) The appearance and condition of the paint within each unit is important to unit condition and user satisfaction. Accordingly, the Co-convener and the Manager will develop a plan to ensure that the interior paint in residential units is satisfactorily maintained. As part of this plan painting standards will be developed that include:
 - Surface preparation
 - Colour and finishing
 - > Paint quality
 - Methods of application approved for exterior & interior paintings
 - Protection of non-painted surfaces
- (b) The plan will set out the conditions for the consideration of a painting request. These standards include the period of time that has elapsed since the last time the unit was painted.

4.1 G.6 User On-Demand Services (UODS)

- (a) This category of work refers to all user-generated work requests that fall into no other category. These are non-emergency calls made by users seeking maintenance service. These requests for service cannot be planned in advance or responded to before the user calls.
- (b) It is the policy of the Committee to complete these work requests within seven days. However, unless the request is an emergency or entails work that affects the usability of the unit, these requests will not be given a priority above to the scheduled and preventive maintenance. By following this procedure, the Committee believes it can achieve both good user service and a maintenance system that completes the most important work first and in the most cost-effective manner.

4.1 G. 7 Contracting for Services (CFS)

- (a) CVRU will contract for maintenance services when it is in the best interests of the University to do so.
- (b) When the employees of the CVRU have the time and skills to perform the work at hand, they will be the first choice to perform a given task.
- (c) When the employees of the university have the skills to do the work required, but there is more work than there is time available to complete it, the university Management will determine whether it is more cost effective to use a contractor to complete the work.
- (d) If the CVRU staff do not have the skills to complete the work, a contractor will be chosen. In the last instance, CVRU will decide whether it will be cost effective to train a staff member to complete the work.



(e) Once the decision has been made to hire a contractor, the process set out in the CVRU-Procurement process will be used. These procedures vary depending on the expected cost of the contract. The Co-convener and the Manager will work with the DR-Admin to facilitate the contract duty. The DR-Admin will decide about the contribution of the Maintenance Committee to this process. The most important aspect of the bid documents will be the specifications or statement of work. The clearer the specifications the easier it will be for the university to get the work product it requires.