

**PIMPRI CHINCHWAD EDUCATIONS TRUST'S
PIMPRI CHINCHWAD COLLEGE OF ENGINEERING**

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A FORMATTIVE ASSESSMENT 1 REPORT ON THE CONCEPTS OF

SAFETY, HEALTH AND ENVIRONMENT

UNDER THE GUIDANCE OF DR. VIVEKANANDAN NALLU

A SAFETY AUDIT AND INSPECTION OF THE

PCCOE WORKSHOP, ARCHITECTURE BUILDING

BY

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ABSTRACT

This report gives a close look at the **safety audit and inspection** done at the college workshop on the 5th floor of the Architecture Building. The whole point of the audit was to check how well the workshop follows safety, health, and environmental rules. It also looked at whether it meets important Indian laws & industry standards. We checked out both good safety habits and areas that need fixing, focusing on things like health issues at work, fire safety systems, and how safe the machines & electrical setups are. Plus, we checked how ready everyone is for emergencies. We used Indian standards like the **Factories Act** while inspecting.

Good things we found were people wearing personal protective equipment (PPE), clear emergency exit signs, & fire extinguishers in needed spots. But there were some problems. We noticed spots with bad ventilation, missing signs near dangerous machines, poor upkeep of electrical wiring, and no regular safety drills happening. A lot of mess around made it hard to move safely.

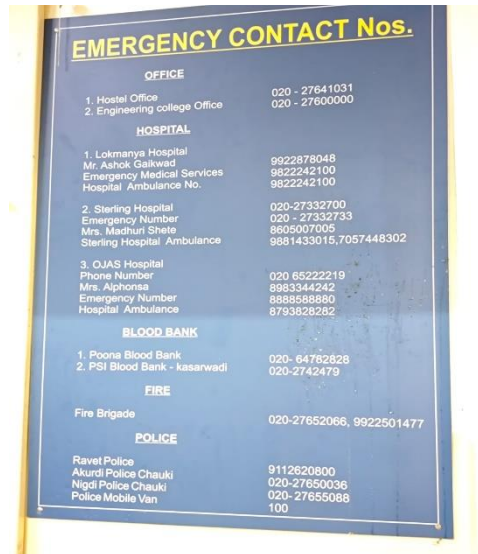
This report doesn't just point out safety rule violations & legal issues in India; it also gives solid suggestions for fixing what's wrong. Following this maintenance, the facility can be well equipped to meet regulatory & safety requirements. Therefore, it will be safer for students, faculty, & staff. The statistics remind us of the importance of monitoring and conducting regular safety checks to ensure that everyone in the workplace stays safe and healthy for the long term.

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ENTRANCE OF THE WORKSHOP

IMMEDIATE OBSERVATIONS



Availability of Emergency Contacts Signboard

STATUS: **POSITIVE**

IT OBEYS

Section 38 of the Factories Act, 1948 – Fire Safety and Emergency Preparedness

Availability of Fire Exit

STATUS: **POSITIVE**

IT OBEYS

Section 38 of the Factories Act, 1948 – Fire Safety and Emergency Preparedness





Availability of Wide Entrances to Workshop

STATUS: POSITIVE

IT OBEYS

Section 32 of the Factories Act, 1948 –

Floors, stairs and means of access

Availability of Drinking Water close to Workshop

STATUS: POSITIVE

IT OBEYS

Section 18 of the Factories Act, 1948 –

Drinking Water



Availability of Washrooms close to Drinking Water Source

STATUS: POSITIVE

IT OBEYS

Section 19 of the Factories Act, 1948 –

Latrines and Urinals



Availability of Working Fire Safety Measures

STATUS: POSITIVE

IT OBEYS

**Section 38 of the Factories Act, 1948 –
Fire Safety and Emergency Preparedness**

INSIDE THE WORKSHOP

IMMEDIATE OBSERVATIONS



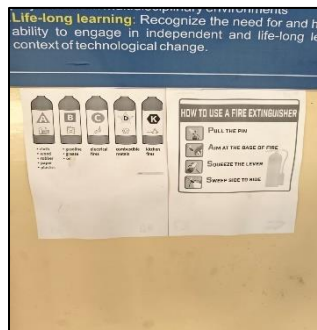
Proper Use of Safety Cones to Mark Boundaries

STATUS: **POSITIVE**

IT OBEYS

Section 7A of the Factories Act, 1948
General duties of the occupier

Section 21 of the Factories Act, 1948
Fencing of Machinery



Availability of Safety and Awareness Sign Boards

STATUS: **POSITIVE**

IT OBEYS

Section 7A of the Factories Act, 1948
General duties of the occupier

Section 111A of the Factories Act, 1948
Rights of Workers, etc.





Availability of Functional First Aid Kits

STATUS: **POSITIVE**

IT OBEYS

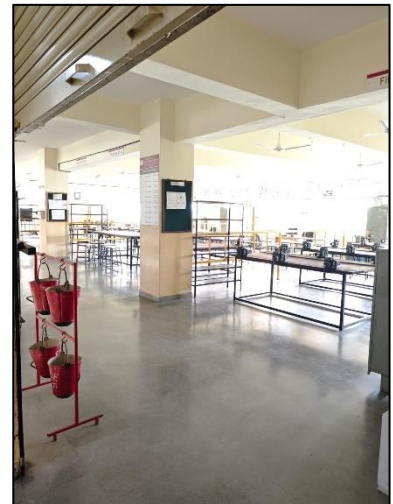
Section 45 of the Factories Act, 1948
First-aid appliances

Availability of Adequate Ventilation in Workshop

STATUS: **POSITIVE**

IT OBEYS

Section 13 of the Factories Act, 1948
Ventilation and temperature.



Availability of Emergency Contacts inside Workshop

STATUS: **POSITIVE**

IT OBEYS

Section 38 of the Factories Act, 1948
Fire Safety and Emergency Preparedness



Lack of proper waste bins with covers

STATUS: NEGATIVE

IT DOES NOT OBEY

Section 11 of the Factories Act, 1948
Cleanliness



Lack of some Functional Sand Buckets

STATUS: NEGATIVE

IT DOES NOT OBEY

Section 38 of the Factories Act, 1948
Fire Safety and Emergency Preparedness

IS 1646: Code of Practice for Fire Safety of Buildings (General)



Availability of CCTV cameras

STATUS: POSITIVE

IT OBEYS

Section 7A of the Factories Act, 1948
General duties of the occupier



Lack of some First Aid Kits

STATUS: NEGATIVE

IT DOES NOT OBEY

Section 45 of the Factories Act, 1948

First-aid appliances

Improper Storage of Scrap near Machinery

STATUS: NEGATIVE

IT DOES NOT OBEY

Section 11 of the Factories Act, 1948

Cleanliness



Availability Fire Safety Equipment

STATUS: POSITIVE

IT OBEYS

Section 38 of the Factories Act, 1948

Fire Safety and Emergency Preparedness



Improper Grounding of Earth Wires

STATUS: **NEGATIVE**

IT DOES NOT OBEY

Section 87 of the Factories Act, 1948
Dangerous Operations

IS 3043: Code of Practice for Earthing



Improper Storage of Scrap near Machinery

STATUS: **NEGATIVE**

IT DOES NOT OBEY

Section 11 of the Factories Act, 1948
Cleanliness



Lack of stable and safe working benches

STATUS: **NEGATIVE**

IT DOES NOT OBEY

Section 40A of the Factories Act, 1948
Maintenance of buildings



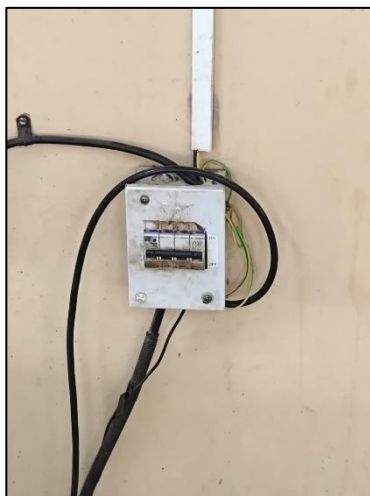
Obstruction to access Fire Hydrant and Hose

STATUS: NEGATIVE

IT DOES NOT OBEY

Section 38 of the Factories Act, 1948
Fire Safety and Emergency Preparedness

IS 1646: Code of Practice for Fire Safety of Buildings (General)



Unsafe and exposed Electrical Switches and circuits

STATUS: NEGATIVE

IT DOES NOT OBEY

Section 87 of the Factories Act, 1948
Dangerous Operations

IS 732: Code of Practice for Electrical Wiring Installations



Some Equipment were unkept and rusty

STATUS: NEGATIVE

IT DOES NOT OBEY

Section 40 of the Factories Act, 1948
Safety of buildings and machinery

Section 40A of the Factories Act, 1948
Maintenance of buildings

DETAILED ANALYSIS AND SUGGESTIONS

AT ENTRANCE

PROS

It was observed that the workshop had a very decent amount of ventilation and space with multiple entry points and a functional fire exit. The emergency Contacts that were listed at the entrance were up-to-date and were a very important aspect in ensuring that help can be provided to the needy at times of crisis. There were washrooms present outside the Workshop with adequate numbers of stalls with a functional drainage system keeping the system hygienic. Drinking water was available a couple of metres away from the washroom entrance which is a very important aspect. The fire exit entrances are always unlocked making it functional and a valid getaway option in case a fire was to emerge. The fire safety Equipment consisting of hydrants, hoses, sand buckets and extinguishers were present and on further inspection were found to be functional and well maintained. The faculty wore adequate safety gear while operating with the machines.

CONS

The workshop is present on the 2nd floor of the Architecture Building and the building has a total of 5 floors with classrooms on the higher levels of the structure. If a fire were to breakout, there is a high possibility that students or faculty might be stuck on the upper floors if the fire were to spread quickly and over a larger distance. This would risk the lives of people on the higher floors of the building as their exits might be blocked or affected in case a fire was to break out. The harmful chemicals from the fire may cause respiratory damage or injuries to people on the higher floors as smoke has a tendency to travels upwards in the atmosphere again endangering the lives of the people. Toxic gas inhalation and lack of escape mechanisms are the biggest risks of the workshop being below classrooms and offices.

It was observed that the noise that the machines generate exceeded the noise limit after which safety gear has to be worn yet there was no provision of any such gear to prevent injuries like occupational hearing loss and headaches. The noise of the machines was clearly audible from the basement of the building indicating how loud some of these machines can be.

SUGGESTIONS

- ❖ **SHIFTING OF THE WORKSHOP TO A SEPARATE BUILDING AWAY FROM THE CLASSROOMS AND OFFICES, ALOCATING A SPECIFIC LOCATION FOR THE WORKSHOP ACTIVITIES TO BE CONDUCTED ENSURING SAFETY OF STUDENTS AND FACULTY IN TIMES OF CRISIS.**
- ❖ **PROVISION OF HEARING SAFETY GEAR TO PREVENT AUDITORY INJURIES DUE TO CONSTANT EXPOSURE TO LOUD NOISES.**

INSIDE THE WORKSHOP

PROS

On entering the Workshop, it was observed that the workshop area was well ventilated and multiple exits making it easier for escape in times of crisis. There was fire equipment inside as well in adequate numbers. First Aid kits were available and there were also a lot of posters and banners that promoted worker safety and proper usage of the machines. Availability of emergency contacts was there as well. The lighting of the workshop was pretty decent as well.

CONS

Meanwhile The audit also identified several areas of concern. The main problem is excessive noise generated by the equipment. which exceeds safety limits. But no hearing protection equipment provided. This long-term exposure to loud noise carries a high risk of hearing injuries such as humming and headaches. Weaving with inadequate equipment is a violation of sanitary standards. This creates a risk. In addition, many of the furniture appear to be cluttered and defective. This results in decreased safety and efficiency. The lack of sturdy work benches and exposed electrical wires were seen as serious safety issues, and water hydrants and hoses were blocked in some areas. This can delay emergency response. Some first aid kits are not available or are not in stock. This results in a decreased ability to respond quickly to medical emergencies.

SUGGESTIONS

- ❖ **Provide proper Hearing Protection to students and workers**
- ❖ **Soundproofing Measures to keep noise in check**
- ❖ **Equipment Maintenance to ensure safety**
- ❖ **Electrical Safety as loose connections were spotted**
- ❖ **Unobstructed Fire Safety Equipment**
- ❖ **Increase Sand Bucket Availability**
- ❖ **Regular Safety Drills to create awareness**
- ❖ **Proper Scrap Storage Area**
- ❖ **First Aid Kits that are filled and well maintained should be available**
- ❖ **Stable Workbenches for students and workers to work on**

CONCLUSION

The PCCOE workshop safety review highlighted a generally positive environment related to fire safety and emergency preparedness, however, some key areas required immediate attention to ensure compliance. Full safety regulations Dealing with issues related to noise control equipment maintenance and implementing proper safety measures is essential to creating a safer workplace. Offices will be able to increase their overall security. By combining the recommended improvements. Ensuring the well-being of both students and teachers Regular monitoring and compliance with established safety protocols will help ensure long-term compliance with health, safety and environmental standards. By promoting a safer learning and working environment for everyone.