GEETANJALI INSTITUTE OF TECHNICAL STUDIES

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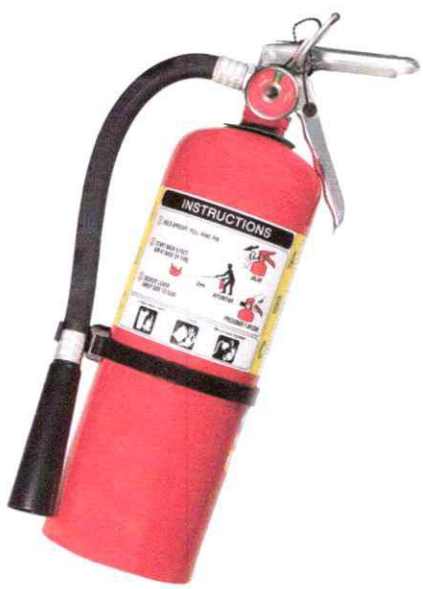

SAFETY AUDIT REPORT

OF THE

GEETANJALI INSTITUTE OF TECHNICAL STUDIES

NH-76, Airport Road, Dabok

Udaipur 313022

November 2020

ACKNOWLEDGMENTS

The administration of the Geetanjali Institute of Technical Studies, on advice of the AICTE appointed Margdarshak, Dr. A. N. Mathur, decided to conduct the Safety Audit of the Campus by a group of internal and external auditors. The inspection for the audit was carried out as per AICTE guidelines covering all the aspect of disasters.

The co-operation and support provided by the management of the GITS and Dr. A. N. Mathur are acknowledged. We also thank the staff and the students for their active involvement in carrying out this audit. We thank the Safety Officer of the GITS for sharing the records.

The committee appreciates vigilant attitude of the management of the GITS campus.

(Sharad Mathur)
Civil Engineer and
Building & Safety
Consultant, GMCH
Udaipur

Fire Safety In-charge of
Pacific Industries

(Nand Lal Suthar)
Safety Officer
GITS Campus Udaipur

Mavli, Udaipur
Dated: 14 November 2020

SIGNIFICANT FINDING AND RECOMMENDATIONS

1. *The committee observed that the institution has followed the safety laws and created the facilities for handling emergency situation as provided in AICTE guidelines.*
2. *The fire extinguisher of one type has been used; it is advised to procure some units of foam type.*
3. *The committee recommended that fire extinguishers be provided in corridor outside laboratory & office rooms having moderate fire hazards.*
4. *Some buildings have completed more than 17 years & structure is strong, it is advised to get Structure Inspection of the building done once in two years.*
5. *Since the only source of water is ground water, the water quality check for its potable use should be done every six months.*
6. *A small foam type fire extinguisher should be provided in buses.*

Preamble

The Geetanjali Education Society was created and registered in the city of Udaipur to undertake several social reform activities including professional education. Thus, it set up first institution in 2002-03 in Udaipur to focus on technical education named as Geetanjali Institute of Technical Education. In the initial phase, three institution and two hostel buildings were constructed during the year 2002-2005. Thereafter, with additions of new programmes, many new buildings and hostels were constructed including residential quarters. The building plans are as per norms for the approval of the institution by the All India Council of Technical Education, which is a mandatory requirement.

The institution was first affiliated with Mohanlal Sukhadia University (2006) and later to Rajasthan Technical University, both state universities, who have been carrying out inspection including safety parameters every year. A report with the certificates from the competent authority has been submitted by the institution every year to the AICTE, which included fire & structure safety.

Audit process:

The committee went through the certificates issued by the competent authorities every year before the institution applied for the extension of approval to the AICTE (Annexure C). This was followed by the visit to the various buildings and campus.

The risks involved from various hazards were classified in three categories, these are strong, moderate and negligible. The preparedness of the management and suggestion for fool proof planning are the part of the report.

Type of hazard	Category
Fire	Moderate
Safety from Electrical Accidents	Moderate
Safety from the cases of unsafe Drinking water/ food poisoning	Moderate
Workshop & Laboratory accidents	Moderate
Emergency handling of case of divyang	Negligible
Structural failure of building	Negligible
Accidents during sports/ social events	Negligible
Stampede	Negligible
Construction activity Accidents	Negligible
Safety of Transport vehicles	Negligible
Earthquake	Negligible
Cyclone	Negligible
Flood	Negligible

The institution has no threat of accidents due to lift failure, land slide and campus roads. The institution has no strong threat of any hazard.

The audit was done during November 8-10, 2020.

Fire Safety Audit: The fire safety of educational institution's buildings is very important precaution to be taken for the safety of the building and its occupants. This is essential in view of material stored such as wooden furniture, library materials, laboratory items, stationary, computers, and other raw materials. Therefore, it is necessary that the building is regularly inspected by the authorized agency/officer for the total safety.

The fire safety certificate is issued by the local body after proper inspection. In view of the building set up, the chances of serious and quick spreading fire are negligible; however, there is possibility of localized fire only.

The fire hydrant has been provided with sufficient water storage and found to be working. The laboratories have been provided with fire extinguishers. The safety instructions have been properly displayed in laboratories.

The institution has installed sand buckets near DG room and parking place. The fire extinguishers have been provided in the library, laboratory and computer rooms. These are properly maintained and recharged periodically. The telephone numbers of Fire Fighting Service has been notified prominently. It was informed that the institution conducts mock drill every year in the beginning of the session. The instructions for what to do in case of fire have been displayed. In the main buildings two staircases have been provided for safe evacuation with proper signage.

The institution has prepared a document for the management of any emergency due to fire and to avoid stampede. This information is shared with the students.

The Safety Officer has been appointed and his cell numbers are displayed prominently.

The CCTV cameras have been provided to cover all the important areas of the campus including firefighting system.

A safe open place has been provided as the assembly point with easy access in case of fire.

The committee recommended that fire extinguishers be provided in corridor outside laboratory & office rooms having moderate fire hazards.

Safety from Electrical Accidents: There are many electrical installations in the building, particularly electrical, electronics and computer laboratories. All having moderate fire risks. The wiring is underground and proper earthing and bonding of electrical wiring has been done providing earth leakage circuit breaker (ELCB) at few points. The campus is free from high or low tension overhead electrical line. A stand by DG set has been provided with sand buckets for fire safety. Safe electrical panels and MCB have been installed. There were no bare wires anywhere in the building. The main switch board is closed and at safe place away from the occupants. The sand bucket has been kept near the switch room.

The management has hired a full time trained and licensed electrician for maintenance, who installed the systems from the beginning.

The building height is about 33 ft only as such lighting arrester has not been provided.

Safety from the Cases of unsafe Drinking water/ food poisoning: The GITS Campus has two canteens, of which one is in an open area as such having no fire risk. The kitchen of the main canteen has been provided with an exhaust chimney to protect against fire and smoke. The canteen is neat and clean with sufficient ventilation. The food is kept covered and ingredients are of good quality. The Safety Officer conducts surprise check for the quality of food.

The supply of drinking water is through RO and water coolers have been installed. The place is properly maintained with good drainage system. The water quality has been tested from the government water supply department.

The telephone numbers of a nearby hospital has been notified in case of emergency.

Since the only source of water is ground water, the water quality check for its potable use should be done every six months.

Laboratory accidents: Except electrical, electronics and computer laboratories most of the laboratories have minimum electrical appliances. These are properly maintained and no bare wire was observed. The wiring is in the pipe and concealed in these laboratories, "Do's and Don'ts" charts have been provided with list of hazardous materials. The laboratories have been provided with instruction for conducting the study so as to minimize the chances of any mishap. In the beginning the students are given instruction how to escape in case of any emergency and how to operate fire extinguisher. A centralized first-aid kit with emergency supplies is easily accessible. The laboratories are maintained following good housekeeping practices. The flooring of the Laboratories is non-skid and non-static, with proper ventilation to prevent accumulation of dust and proper natural lighting. There is no need of fuel storage inside lab.

The safe disposal of e-wastes is in use.

Emergency handling of cases of divyang: The environment is divyang friendly as the provisions made can meet their need and also using the intra network sitting at one place. A ramp has been provided to visit the main building and a lift is under installation. They are always in view of the Security Guard as such they can be saved in case of any emergency.

Structural failure of building: The institution building is design by the trained Architect and a Structure Engineer as such the chances of failure are remote. The institution has been maintained well and painted periodically. The regular maintenance of the building has been done. The emergency evacuation plan has been worked out including cut-off of the water and electrical supplies from outside the building and kept with the Safety Officer. The committee did not observe any point which requires immediate repair. It was informed that the building occupancy certificate from the PWD is being renewed. ***However, it is advised to get Structure Inspection of the building done once in two years.***

Accidents during sports/ social events: The Institution organizes number of activities and sports & games during the year. All required precautions are taken while erecting tent and organizing the activities. The emergency numbers are prominently displayed including that of

a qualified Medical Officer besides the Safety Officer is required to be present full time. During major sports events, a trained Paramedical staff with emergency kit is available on the spot. During the erection of the tents it is ensured that emergency exits are provided on all the sides and kept free of any obstacles. The barricading, if provided, is kept minimum and such that it does not block the passage. The pathways have been designed to avoid pressure points in case of stampede.

So far no such accident has happened.

Stampede: The public address system is always maintained during organization of events and assembly of crowd. The Safety Officer has instruction for the crowd management which includes diversion, opening number of gates, early opening and delayed closing of the gates, monitoring the behavior and movement of the crowd etc. In case of requirement proper signage, available in the institution, has been used. The student volunteers are specifically trained in crowd management.

Construction activity Accidents: At the moment no major construction activity is going in area used by the occupants on the campus, however, the regular construction activities take place. In view of it, the points included will be very useful and are suggestive only. Interestingly, the Safety Officer's manual contained all information regarding safety precautions during construction work. These have been updated and mentioned below:

- The workers, site engineer and visitors must wear safety helmets while on the site/work. They must wear protective clothes.
- The construction area must be barricaded from other educational area and all building material to be downloaded in the barricaded area only.
- If possible cover the upper stories so that the work is not visible and not in the reach of the students. Where guarding to working area is impractical, use of safety nets and harnesses must be done.
- Warning and safety signage must be used and warning siren must be sound during striking operations.
- All openings for inspection must be covered or guarded by rail and put a warning sign.
- Guard rail and toe board must be provided on scaffolds and other working platforms; these must be inspected for safety periodically.
- All rubbish and waste material must be removed periodically so that it does not cause unnecessary obstructions, which may create a hazard.
- Waste materials being disposed off from heights should always be lowered safely and never thrown or dropped from working area.
- No person should be allowed access under slab formwork during pouring.
- Never allow partially struck formwork to be left unattended.
- Keep the electric leads, compressed air lines and pump lines as short as possible to prevent risk of tripping injuries.

Safety of Transport vehicles: The Institution has fleet of vehicles and buses. The faculty members also use cars and many of the students use motorcycles. The parking area is marked and vehicles are parked systematically. The Security Guard on duty looks after parking of the vehicles. The driver and attendant in the buses are license holders and trained in first-aid and dealing with other emergency situation. The driver cabin is marked separately. A first aid box is provided near the driver's seat. The emergency exit is properly labeled. The name of the institution has been displayed prominently. The vehicles have been issued valid Fitness Certificate from RTO. The proper record of change of lubricant, battery and tyres is maintained.

A small foam type fire extinguisher should be provided in buses.

Earthquake: The area does not fall under the earthquake region. The building has been designed by the Structure Engineer as per prevailing norms for the area. The evacuation plan is the part of mock training given to the occupant every year. The collection point in case of the earthquake has been selected about 40 m from the building. There are no heavy and large items stored in the building. The hanging / suspended large items such as framed pictures, large mirrors etc. are away from sitting place and protected escape routes. The building has no unsafe glass paneling.

Cyclone: The maximum wind velocity recorded for the area is 10-30 km per hour which does not come in the range of cyclone. The Safety Officer keeps alert during cyclone season. The instruction display contains the warning instruction and useful telephone numbers. The committee checked the doors and windows which have proper locking system to safe guard during the cyclone season. The security guard at the gate has been provided with emergency kit such as torch lights, spare batteries, water container, match boxes, candle etc. There are no tall plants there in the compound.

Flood: The chances of flood are remote as the locality has proper drainage system. However, in some cases the lake behind college building spreads up to campus but does not cause any panic situation and water recedes in a short time without causing any harm. In case of emergency, there is provision of storing the drinking water sufficient to last for at least three days, maintaining consumption rate of 4.5 liters/Day/ person during such time.

Interaction with the staff and students: The committee had discussions with the faculty and students to know their awareness about the safety. They were given mock drill and training on various hazards in the beginning of the session. They were found aware to some extent, especially of fire and earthquake. They remembered the emergency phone numbers displayed in the institution.

Meeting with Safety Officer: The Safety Officer has maintained a record of "Do's and Don'ts" in case of any type of emergency. It was also informed that every year a talk on First aid in all emergency cases is organized by a professionally qualified Medical Officer with practical demonstration. He has been conducting Mock Drill and also preparing volunteers for handling any mishap.

Fire & Safety in Hostels: GITS has separate hostels for students. Most students share a room with their peers. This provides them an opportunity to develop closer bonds of friendship and also serves to further enhance their social skills. Rules have been framed, keeping in mind the local culture and traditions, with a view to guide and help students to maintain a standard of impeccable conduct.

The GITS Campus has 06 hostels, of which 02 are for girls & 04 for boys. For Safety Fire Extinguishers & sand buckets are installed at all the floors of all hostels. The hostels are neat and clean with sufficient facilities. The Safety Officer conducts surprise checks of the hostels. All the hostels have supply of drinking water through RO. Security Persons are available in each hostel for the safety of students.

Following table mentions the hostel report:

HOSTEL NO.		NO. OF ROOMS	HOSTEL CAPACITY	OCCUPIED	VACANCY
1	BOYS HOSTEL	46	92	0	92
2	**GIRLS HOSTEL**	46	92	21	71
3	BOYS HOSTEL	46	92	0	92
4	BOYS HOSTEL	46	92	68	24
5	**GIRLS HOSTEL**	28	78	31	47
6	BOYS HOSTEL	77	154	142	12
TOTAL		**289**	**600**	**262**	338

Annexure A

Appointment of Safety Officer as per AICTE Guidelines

10-11-2019

OFFICE ORDER

The Committee appointed for safety audit has visited the campus and desired to nominate one staff as safety officer and classified various hazards and safety precautions to be taken as below:

Type of hazard	Level	Precautions to be taken
Fire	Moderate	All mandatory provisions of water points, fire extinguishers and sand buckets fulfilled. Displayed information on what to do in case of fire.
Electrical hazard	Moderate	Sealed Wiring, no naked wire, proper earthing, and no overhead lines. Dos and Don'ts displayed in all labs.
Unsafe Drinking water/ food	Moderate	RO installed, checking water quality every six months, cleaning of overhead tanks done every six months, dates of cleaning to be displayed. Testing of Food and kitchen to be done periodically.
Laboratory accidents	Moderate	No loose wires, list of chemicals and safety precautions displayed.
Emergency situations in case of physically challenged	Negligible	Ramp provided, all facilities created up to ground floor. Visitor's Register maintained at gate. Lift under installation
Structural failure of building	Negligible	Properly designed structure, audit to be done every year.
Accidents during sports/ social events	Negligible	All precautions taken and the participants informed. Medical facilities kept ready for emergency and collaborated with the hospital.
Stampede	Negligible	Signage provided at various entry/exit points.
Construction activity hazards	Negligible	Maintains the record of the precautions to be taken, to be displayed while starting work.
Transport vehicle	Negligible	All vehicles registered and checked for safety by

accident		RTO.
Earthquake	Negligible	Displayed the precautions to be taken
Cyclone	Negligible	Displayed the precautions to be taken
Flood	Negligible	Displayed the precautions to be taken

Mr. Nand Lal Suthar has been appointed Safety Officer who will take all measures and conduct training of the staff and students as required. He will regularly check the various installations and maintain a record of inspection.

Director

Annexure B

AICTE GUIDELINES FOR FIRE AND LIFE SAFETY

SAFETY AGAINST FIRE

All the buildings, after completion and before occupation, shall be inspected for fire and life safety measures by the Local Fire Service Authorities and a Certificate to that effect shall be obtained. In the absence of such a Certificate, following requirements shall be met.

- Fire buckets filled with sand shall be hanged in the protected stands near Laboratory, DG room, transformer, corridors etc.
- Fire point must be established in the building and the building must be provided with 2 fire water buckets, 2 sand buckets and 4 fire extinguishers one of each type.
- Minimum 2 numbers of extinguisher of any type should be installed at every prominent location.
- Every exit, exit access or exit discharge shall be continuously maintained free of all obstructions or impediments to full use in case of fire or other emergency.
- Retro Reflective Signage shall be provided for escape routes at suitable height.
- Evacuation drill shall be conducted for each building quarterly.
- To avoid stampede and to manage any emergency properly, the Institution should have a Standing Fire Order – Document containing established procedures required to handle fire and emergency situations in which duties and responsibilities of various Authorities and Agencies are included.
- The CCTV camera shall be provided to cover all the important areas of the campus including firefighting system like extinguishers, hose reels, risers, automatic detection and alarm system, sprinkler system, manual call points etc.
- Assembly point shall be provided in a safe place with no fencing around it.

STANDING FIRE ORDER

Responsible authorities

1. The person who detects the Fire
2. Safety Officer
3. Maintenance Section

The person who detects the fire:
Immediately inform the Safety Officer and Head of the section/ division

Responsibilities of safety Officer:

I. On receipt of information:

- He/ She shall immediately proceed to the scene of incident and assess the situation.

- If considered necessary, he/ she shall raise fire alarm for his/ her zone and notify the incident to Fire department and the listed emergency services. Officer shall have to confirm this action later.
- If necessary, he/ she shall direct the Maintenance section to salvage the records and materials from the area.
- If considered necessary, he/ she shall evacuate his/ her zone and/ or neighboring zones.
- At the earliest opportunity, he/ she shall inform the incident to the Departmental head.

Duties of Maintenance section Members:

- On receipt of call for emergency in their own zone, all the members of Maintenance section; shall immediately proceed to the place of incident and Report to their Duty Officer.
- Shall strictly follow the instructions of Safety Officer and work under him/ her as per his/ her directions.
- Shall, as per the instructions from Duty Officer/ Fire Officer, switch off electrical supply to the affected area.
- Shall see that electric supply is restored only on instructions from the Duty Officer/ Fire Officer.
- Close the air conditioning system of the affected area.
- Shall ensure that booster pump located in the building is Switched On.
- Shall ensure that all the Hydrants in and around the building are charged with sufficient pressure.

Duties of other staff from the affected zone/ zones:

II. On hearing the Emergency Alarm, all the other members of staff:

- Are requested no to panic, but to remain calm and follow instructions of the Safety Officer in an orderly and disciplined manner.
- If directed to evacuate, shall ensure that all the electric lights at their work place are switched off and that all the windows and doors of their area are properly closed before leaving the place.
- During evacuation, shall proceed in an orderly manner to the ground floor by the nearest available staircase/ emergency exit.
- Shall not use the lifts.
- Shall see that, persons assigned with specific duties in an emergency are not disturbed or obstructed in their work.
- If requested by Safety Officer shall help in removing the records and materials not affected by the fire.

III. If you discover a Fire:

- Do not panic.
- Break the glass of nearest fire alarm/ manual call point.
- Call Fire Services on 101/ Local Fire service Telephone No.

- Inform Security/ Safety Officer
- Inform Officer in-charge.
- Call for assistance.
- Attack the fire with the fire extinguishers provided.
- Protect material, which is not involved / engulfed in Fire.

IV. If you hear the evacuation signals:

- Stop machines.
- Shut off gas and electric power, but not lighting.
- Close doors and windows.
- Leave the building immediately by the nearest exit.
- Do not run.
- Do not go to cloakroom.
- Do not stop to collect personal belongings.
- Report to assembly point.

V. For your own safety you should know:

- The position of the nearest fire alarm point.
- The position of the nearest fire extinguisher and operation method.
- The nearest exit route.
- Your assembly point.
- Road should be kept clear for the movement of Fire Service Vehicles.
- The overhead electric cables, service pipes and telephone wires are sufficiently high for vehicles to pass.

ELECTRICAL HAZARD

- Proper earthing and bonding of electrical wiring shall be ensured.
- All major equipment shall be earthed separately.
- Earth leakage circuit breaker (ELCB) shall be provided as required.
- No overhead High tension electric line shall pass across the premises.
- Sub stations or transformers, if any, shall be segregated. Carbon di-oxide, dry chemical powder (DCP) and Mechanical foam fire extinguishers, sand buckets shall be provided.
- Only trained and licensed electricians should be allowed to do work related to electric supply.
- Lightning arrester shall be provided for all the buildings.

UNSAFE DRINKING WATER/ FOOD

- Clean all reservoirs on periodic basis.
- Test quality of water every three months.
- Test quality of samples of food prepared on campus in an independent Laboratory preferably once in six months.

LABORATORY ACCIDENT

- Warning symbols shall be provided inside and outside the Laboratories.
- List of chemicals used in the Laboratory shall be displayed outside.
- Instructions regarding the procedure to be followed in case of an emergency occurring in the building shall be displayed inside and outside the Laboratory in the form of Do's and Don'ts.
- First-Aid Kit shall be maintained, wherever necessary
- Emergency contact numbers shall be displayed inside for contacting in case of any emergency which should include Safety Officer, Fire Control Room, Medical Assistance, Security Assistance, Head of the concerned department, maintenance services.
- Personal protective equipment, as necessary, shall be provided for each one entering the Laboratory.
- Provision for fume hood should be made.
- Glove box for Experiments shall be provided.
- Good housekeeping practice shall be followed.
- Knowledge to operate the fire extinguisher provided inside and outside the Laboratory.
- Flooring of the Laboratory shall be non-skid and non-static.
- Proper ventilation facilities shall be provided to prevent accumulation of dust and fumes.

- Only small quantity of fuel for experimental purpose shall be kept in Laboratory and the quantity shall be noted every day.
- Material safety data sheet for relevant chemicals shall be provided.
- Disposal of chemical waste shall be done properly on daily basis.

WORKSHOP ACCIDENT

- Personal protective equipment shall be available for each one entering the workshop.
- Instructions for workshop safety must be displayed inside and outside the workshop.
- First-aid kit shall be maintained.
- Safety precaution for operation for each machine should be affixed with it.
- Standard Operating Procedure (S.O.P.) for all the equipment and system must be prepared and properly displayed near the respective machine.
- Emergency contact numbers shall be displayed for contacting in case of any emergency which should include Safety Officer, fire control room, medical assistance, Security assistance, Head of the concerned department, maintenance services.
- Instructions regarding the procedure to be followed in case of an emergency occurring in the building, outside the workshop, during the running of workshop shall be displayed inside and outside the workshop in the form of Do's and Don'ts.
- While installing or keeping machines and tool, racks aisles and gangways should be provided.
- There should be Schedule for Standard Test for machines and tools.
- Workshop floor should be made of non-skid and non-static floor tiles.
- Place for disposal of materials should be properly marked.
- Various fuels used in workshop shall be stored in minimum quantity according to requirement.
- Proper ventilation facilities shall be provided to prevent dust accumulation.

EMERGENCY SITUATION - PHYSICALLY CHALLENGED

- Ramp shall be provided for the disabled for easy access to and evacuation from the building.
- Sufficient wheel chairs and stretchers shall be available for use in emergency.
- Information regarding the number of physically challenged people in the campus should be available with the Safety Officer.
- The time and the number of physically challenged persons among the visitors shall be recorded at security gate.

ACCIDENTS DURING SPORTS/ SOCIAL EVENTS

- A qualified medical practitioner should be present or available on call.

- Trained Para-medical staff and first-aid kit shall be available.
- Structural strength of temporary galleries and other temporary structures shall be ensured.
- In permanent structures, no exit shall be locked permanently, for any reason.
- Training in first aid shall be given to all volunteers.
- Proper signage for exits and safe assembly points.
- Information regarding Exit, Escape routes, entry, parking, seating arrangements etc. shall be made available to all entrants in graphical form.
- Well-equipped vehicle or ambulance shall be available for emergencies.
- Barricading, if provided, shall not obstruct safe escape routes.
- Temporary galleries/ pandals and other temporary structures shall conform relevant Indian Standards and Codes for practice
- Provision for a dispensary should be made.
- Sufficient power back up for illumination shall be provided.
- The pressure points, near the diversion or change in pathway, shall always be attended by trained guards or volunteers to avoid stampede.
- Crowd management system shall be established for continuous monitoring of status of crowd, behavior and movement.
- Public address system and other communication system shall be maintained at the crowd management center.
- Early opening and delayed closing shall help to prevent stampede.

CONSTRUCTION ACTIVITY HAZARDS

- Safety helmets must be worn at all times.
- Barricade entire construction work area from other educational area.
- Where guarding to working area is impractical, use of safety nets and harnesses must be done.
- Erect warning signs during striking operations.
- Erect safety signs and barriers to keep unauthorized persons away from work area.
- Inspection chambers in the ground and openings in the slab are either covered over and a warning sign erected or protected by some guard rails.
- Scaffolds and other working platforms should be equipped with guard rail and toe board.
- Remove periodically all unnecessary obstructions, which may create a hazard.
- Waste materials being disposed off from heights should always be lowered safely and never thrown or dropped from working area.
- No person should be allowed access under slab formwork during pouring.
- Never allow partially struck formwork to be left unattended.
- Wear appropriate protective clothing.
- Keep the electric leads, compressed air lines and pump lines as short as possible to prevent risk of tripping injuries.

- Inspect periodically all scaffolds, working platforms, screens and other lifting and handling devices and maintain a record of inspection.
- No person under the age of 18 years should be allowed to operate any item of powered plant.
- Take care of personal hygiene.

STAMPEDE

- Proper signage for traffic control route shall be displayed.
- Public Address system shall be implemented to communicate and to direct.
- Power back up for extra illumination of exit routes shall be available.
- It is necessary to do planning and practicing mannerly and orderly evacuation and maintaining records.
- Student volunteers need to be trained for proper evacuation
- Ensure that no more than 4 persons/ m^2 shall assemble in all assembly areas.
- Temporary barriers shall be provided to use in emergency to restrict and to control traffic.

STRUCTURAL FAILURE OF BUILDING

- Emergency evacuation procedure with evacuation plan shall be kept ready.
- Provisions shall be made to cut off water, electricity and LPG connections safely from outside the building.
- Structural audit of buildings shall be done periodically.

TRANSPORT VEHICLE ACCIDENTS

- Fire Extinguisher shall be provided in all vehicles.
- Driver and attendant shall be trained in first-aid, firefighting and first-aid and the records of refresher training shall be maintained.
- Geographic positioning system (GPS) shall be provided for all vehicles for institutions transport.
- Emergency exits must be properly maintained in the vehicle.
- All emergency numbers shall be displayed in the vehicle, inside and outside.
- Name of the Institution and contact number shall be written legibly on all four sides of the vehicle.
- Driver cabin should be separate.
- Fitness Certificate test records and records of repair and maintenance of the vehicle shall be maintained.
- Details of battery, tyre, issue of lubricants, fuel etc. shall be properly maintained.

LIFT ACCIDENTS

- Signage should indicate precautions to be taken for lift operations.
- A phone unit and an alarm bell should be provided inside the lift cabin.
- Emergency contact numbers need to be displayed inside and outside of the lift cabin.
- Emergency lighting should be available.
- Sufficient number of lifts shall be provided to avoid overcrowding.
- Passenger and service lifts should be separately provided.
- Fitness Certificate from the concerned Authority should be available and displayed.

EARTH QUAKE

- Construction of building shall be as per relevant Indian Standards and Codes of practice.
- Already constructed structures, if already not designed to satisfy earthquake resistance, shall be strengthened as per relevant Indian Standards and Codes of practice.
- Proper evacuation plan based on the Standing Fire Order shall be maintained and it should cover all the possible emergencies.
- Evacuation drill/ Exit drill shall be conducted quarterly and such records shall be maintained (Different groups, members, date of conduct, observations).
- Training should be given to all members of the evacuation teams to perform their duties and records shall be maintained.
- The most suitable and safest place shall be selected as safe assembly point for each building.
- Large or heavy items, if any, shall be placed closest to the ground.
- Hang large items such as framed pictures, large mirrors etc. away from sitting place, bed and protected escape routes. Brace overhead light fittings properly.
- An inventory for the details of heavy duty equipment and necessary tools with the details and contact numbers of owner and operator shall be maintained for ready reference.
- Avoid glass paneling for buildings. However, if provided, shall be protected with metal screens.

CYCLONE

- Keep in contact with the concerned authorities before the cyclone season each time for warning and precautionary measures.
- List of emergency phone numbers shall be displayed.
- Training should be given to all members of the response teams to perform their duties and records shall be maintained

- Provision shall be made to secure strongly all doors, windows and other openings, if any, in closed position.
- Emergency kits containing portable battery radios, torch lights, spare batteries, water container, dry fruits, match boxes, fuel lamps, portable stove, cooking utensil, etc. shall be maintained in cyclone prone areas.
- Low frequency communication devices shall be in place.
- Avoid glass paneling for buildings. However, if provided, shall be protected with metal screens.
- Construction of buildings shall be strong enough to resist collapse during wind.
- Long and continuous structures shall be avoided so as to reduce the effect of wind.
- Deep rooted plants which can resist wind can be planted around but outside the boundary wall to reduce the wind velocity.
- No tall plants shall be there in the compound, especially near any building.

FLOOD

- Provision for the storage of drinking water at the rate of 4.5 liters/ 1 Day/ person for the total occupants for a minimum of 3 days during impending flood shall be made.
- Provision for storage of non-perishable easy to prepare food for 3 days supply during impending flood shall be made.
- Flash light for signal (Red Cross store) shall be arranged.
- Portable battery Radios (if possible NOAA - National Oceanic and Atmospheric Administration type) shall be arranged.
- Flood rescue equipment like lifebuoy, life jacket, portable boats with oar and out board engine, rope shall be stored and ready for use.
- Occupational Health center shall be maintained.
- Paramedical Team shall be available and trained.
- Provision should be made on top floors of the buildings for shelter in case of flood.
- Insect repellants and sunscreen shall be stored.

LAND SLIDE

- Construct Retaining walls wherever necessary to prevent erosion.
- Train permanent staff to identify the symptoms of landslide.
- Avoid buildings in steep slope or along natural erosion valleys.

Annexure D

ACTIONS TAKEN BY THE SAFETY OFFICER

(THE CONTENT TO BE USED FOR TRAINING)

2021-22

	Jan 21	Apr 21	Jul 21	Oct 21	Jan 22	Apr 22	Jul 22	Oct 22
Checking of fire equipments								
Inspection of electrical systems,								
Other checking								
Inspection of canteen/mess								
Checking of RO								
Mock Drill & Training								
Signature								
Review by								