secure. Separate storage for dirty work clothing may be necessary to prevent cross-contamination.

**Resting and eating facilities** – access to suitable rest areas where workers can take a break from work. Such areas should have sufficient seating and be away from hazardous work areas, allowing workers to remove PPE and relax. Eating facilities should be provided so that food can be eaten in a hygienic environment. If hot food is not provided at work then basic facilities might be provided so workers can make their own hot drinks and food.

2. **Identify prevention strategies** an organization could consider to reduce the risk violence towards workers.

- Collecting and analyzing incident reports.
- Interviewing staff formally or informally.
- Staff surveys.
- Zero tolerance policy and prosecution of offenders.
- Security staff.
- CCTV cameras.
- Security doors between public areas and staff areas.
- Minimize queues and waiting times.
• Care should be taken to avoid overheads when the tower is moved.
• Outriggers should be used where necessary to ensure stability.
• People should not climb up the outside of the tower.
  ▪ Tower must be built by trained workers.

2. Repair work is to be carried out on the roof of a school.
   i. Identify control measures to reduce the risks to roofworkers. (6)

   ▪ Fragile roofs should be clearly signed.
   ▪ The safe working method for fragile roofs is usually by the use of roof ladders or crawling boards.
   ▪ These are laid across the roof surface, supported by the underlying load-bearing roof members, and distribute the load of the worker over a wide area, enabling the roof structure to sustain the load safely.
   ▪ Access equipment must be maintained correctly to ensure stability. This must be carried out by a competent person and is often subject to statutory requirements, e.g. inspection frequencies.
   ▪ Personal protective equipment, such as harnesses and helmets.
   ▪ Health condition of the individuals.

   ii. Identify TWO control measures to reduce the risks to other persons. (2)

   ▪ Construction sites almost always have a risk of falling objects so they should be mandatory hard hat areas.
   ▪ Collective protection systems, such as safety nets and air bags.
   ▪ Warning signs
   ▪ Barricade the area

3. Identify why accidents may occur in staircase1 (6)
   ▪ Poor lighting
11. **Identify** the factors to consider when assessing the adequacy of lighting within an open plan office. (page no: 1-2)

- Natural light should be used in preference to artificial light.
- Light levels should be adjusted to suit the level of detail required and the visual acuity of the workers.
- Local lighting, such as spotlights positioned above machinery, might be required to give higher levels of light on critical areas.
- Lighting must be arranged to avoid reflections and glare that might dazzle or temporarily disable.
- Lighting must be arranged to avoid the creation of shadows that might obscure areas and create risk.
- Flickering should be avoided to prevent nuisance and in particular the “stroboscope effect”.
- Lighting must be suitable for the environment (e.g. intrinsically safe lighting used in flammable atmosphere).

12. **List** eight design features or safe practices intended to reduce the risk of accidents on staircases used as internal pedestrian routers within work premises.

- Adequate width
- Provision of handrails
- Dimensions of treads and risers.
- Provision of landings.
- Provisions for disable persons.
- Possibility of using a lift as an alternative.
- Avoid the need to carry large or heavy items up or down stairs
- Appropriate footwear – low heels.
- Provision of non-slip surfaces.
- Not using hand rails
- Not following rules (e.g. Running)
- Improper footwear
- Spillages
- Insufficient treads and risers
- Slippery surfaces
- Arrangements for workers to have access to rehabilitation and treatment programmes if they admit to having a problem.
- Disciplinary procedures for workers, who refuse assistance, refuse to be tested or who fail a test.
- Provision of information, instruction and training to workers, supervisors and managers.

15. **Identify** ways in which accidents may be prevented when using portable ladders as a means of access. (page no: 1-26)

- Site on a solid, flat base so that the feet do not sink into the ground. Weight should only be supported on the styles, never on the rungs.
- Angle of the ladder should ideally be 75° to the horizontal or at a ratio of 1:4 distance away from the wall to height (1 out: 4 up).
- Top of the ladder must rest against a solid support.
- Ideally the ladder should be secured at the top.
- Do not site or handle near live overheads.
- If this is not possible, then guy ropes should be attached and secured to firm supports.
- If this is not possible, ladder should be “fooled” by someone standing on the bottom rung.
- Top of the ladder should extend far enough above the level of the working position or the platform onto which it provides access to provide a safe handhold. The stepping off point should be safe and clear.
- Only one person should climb on the ladder at any one time.
- Nothing should be carried in the hands while climbing, so that both hands are free to grasp the styles.
- Wooden ladders should not be painted as this can hide defects.

18) a) **Identify** the issues that should be considered to help ensure that a new item of work equipment is suitable for use.  

- Tools and parts are only used for their intended purpose, within their design specification (e.g. the maximum speed of a cutting disc...
speed, or climb onto the top of a road tanker to close hatches. Both of these operations involve work at height.

**Coupling** –
when vehicles are attached to trailers or other towed equipment there is potential for collision and crushing.

**Maintenance work** –
when mechanics have to access various parts of the vehicle and may have to work at height or under the vehicle.

8) Mobile tower scaffolds should be used on stable, level ground.

Outline additional factors that should be considered for the use of a mobile tower scaffold. (8)

- Never overload the mobile tower scaffold during work.
- Ensure that outriggers are utilized at all times.
- All the mobile tower should have guard rails fitted.
- Ensure the wheels are chocked before allowing any personnel to work on board.
- Only competent and trained personnel to erect the tower.
- Do not allow anybody to work on top while we move the mobile tower scaffold.
- Never work under overhead lines.
- Climbing through outside should not be permitted.

9) A new vehicle route is to be provided into the goods delivery area of workplace.

Outline features of the vehicle route that could reduce the risk of pedestrians being injured by vehicles.

(8)
- Be alert for cracks or crevices - Sparks and slag can travel long distances.
- Provide fire extinguishing equipment - Be prepared to put out fires. Service-able fire extinguishers, fire hoses, or sand buckets should be on hand.
- Consider the need for a fire watcher - Operators may not become aware of a fire starting while welding or cutting.
- Know the local fire codes for welding and cutting.
- Inspect the work area after completing operations - Make sure there are no hot sparks or hot metal which could start a fire later.
- Before welding or cutting in a new location for the first time, please do the risk assessment. They may know of some serious fire hazard that might otherwise be overlooked.

4. Outline control measures to reduce the risk to workers when using non-powered hand tools.
- Tools must be suitable for the task that they are going to perform and for the environment in which they are to be used, e.g. non-sparking tools (do not produce sparks when struck) is suitable for use in a potentially flammable atmosphere.
- Users should be given appropriate information, instruction and training. Many workers serve some form of apprenticeship or spend several years in training where they acquire an understanding of safety in the use of the tools for their trade, but not all workers come to the workplace with this knowledge (which may seem like common knowledge to others).
- Tools should be visually inspected routinely before use to ensure they are in an acceptable condition. This should be done by the user. Spot checks by line management will ensure that users comply. Substandard tools should be maintained or discarded.
- Tools should be maintained in a safe condition, e.g. blades should kept sharp and handles firmly attached.
(b) **Outline** control measures that can be used to reduce the risks of injury to operators of a cement mixer.

- Location of the mixer on firm, level ground.
- Location away from traffic or where traffic is controlled.
- Fixed guards to motor and drive mechanism.
- Routine inspection and portable appliance testing, and use of residual current device (RCD) for electrically powered equipment.
- Safe storage of petrol and control of ignition sources for petrol-powered equipment; avoid use in confined spaces due to emission of exhaust gases.
- Reduction in manual handling or positioning of cement bags close to the equipment.
- Use restricted to trained operators only.
- Hand protection, respiratory protection, overalls and eye protection (splash resistant).
- Hearing protection to reduce noise exposure.

10. **Outline** four control measures to reduce the risk of injury from pedestal drill

- Fixed guards over motor and drive mechanisms.
- Adjustable (possibly interlocked) guard over chuck and drill bit.
- Clamp to secure workpiece to base.
- Eye protection (impact resistant).
- Hearing protection may be necessary.
- Routine maintenance, including inspection and portable appliance testing for electrical safety.
b. Identify health risk which could be associated with the wood dust. (4)
   - Dermatitis
   - Allergic respiratory effects
   - Mucosal
   - Non-allergic respiratory effects

c. Outline control measures which could reduce the risk from the wood dust. (12)
   - Installing Local Exhaust Ventilation
   - Provide Respiratory Protective Equipment
   - Provide other Personal Protective Equipment
   - Good standards of Housekeeping
   - Vacuum cleaning equipment should be maintained properly
   - Washing facilities for workers
   - Separate storage for workers clothing and laundering
   - High standard of personal hygiene by changing overalls and washing hands before eating and drinking.

13) a) Identify FOUR hazards associated with the use of photocopiers. (4)
   - Drawing in and entanglement from contact with moving parts.
   - Electricity.
   - Contact with hot parts.