

**Ministerial decree no 286/2008;  
Issued on the 22<sup>nd</sup> June 2008 and Effective as on 1<sup>st</sup> July 2008**

## **Chapter (1)** **Definitions and General Provisions**

### **Section (1)** **Definitions**

#### **Article (1):**

Upon the application of these regulations, the following words and terms will bear the meanings against each unless the context requires otherwise:

1. The department: The occupational safety and health (OSH) department of the directorate general for labourers welfare.
2. Section: The inspection and safety and health section of the department of labourers welfare at the directorali general of Manpower in regions and governorates.
3. Inspector: Every official in charge of monitoring the applications of the conditions of standards of safekeeping labourers safety and health from the various hazards caused by the work environment.
4. (OSH) supervisor: Any person who performs a protective role in establishments through supervising the application of the conditions and standards of safekeeping workers from the various hazards caused by work environment on an assignment by the administrative body of the establishment.
5. Serious accident : Accident that causes a permanent total or partial disability or death to a worker , or causes injury to more than a worker , or leads to losses in production and equipment .
6. Biological hazards: The hazards caused by germs, viruses, fungi or parasites.
7. lionic radiation : Radiation that is capable of producing twin ions in substances .

## **Chapter (2)**

### **General provisions**

#### **Article (2):**

All establishments subject to the labour law issued by Royal Decree No. 32/2003 shall - comply will the provisions of these regulations.

#### **Article (3):**

- To perform their tasks , inspectors shall :
- Enter work sites without prior notice at any time during work hours.
- Look into the technical and scientific characteristics of the materials and compounds used, take samples of the materials and tools used, circulated or produced in the establishments or their waste to conduct analysis.
- Ask to conduct medical or laboratory investigations on the workers to assure that work conditions are adequate to their health conditions.
  - Conduct any investigations or look into any records that may contribute to assuring commitment to the provisions of these regulations.
- Direct the employers to what they see necessary to avoid the hazards of work and equipment, their protective actions, minimizing their impacts and raising the levels of protective awareness of occupational diseases in hazardous, harmful industries and businesses.

#### **Article (4):**

Within the process of monitoring the employers commitment to implementing the provisions of these regulations, the inspectors shall be authorized to take the following procedures:-

- Issue the necessary orders to rectify violations within a specific period of time.
- Immediate stoppage of work partially or totally, or stoppage of operating one or more machines in case of an eminent hazard, and seeking the assistance of the ROP if necessary.

#### **Article (5):**

Inspectors shall not reveal any business secrets or any intormation they gained access to by virtue of their work even after the end of their services.

**Article (6):**

The employer or his representative shall provide the inspectors with the facilities necessary for performing their tasks and all the information they require regarding the application of the provisions of these regulations

**Article (7):**

The employer or his representative shall inform the workers, before they take up work, of all the hazards they may be exposed to , and train them on the protective procedures .

Such instructions shall be prominently posted in the establishment.

The employer shall also post the warning signs in hazardous areas and take all the necessary actions and procedures to assure that the materials , factors and conditions existing in the work environment do not pose any hazard on the workers' health . The results of the periodical assessments and actions related to the levels of the various hazards existing in work environment shall be kept in a special record.

**Article (8):**

Workers shall use the means of protection , safeguard them carry out the instructions on keeping themselves away from injuries and refrain from all acts intended to obstruct the implementation of these instructions or cause harm or damage to the means set up to protect the safety and health of their fellow workers.

**Article (9):**

The owner of the establishment shall provide protective equipment free of charges for the workers who may be exposed to any kind of hazards.

**Article (10):**

If an employer employes (10) or more workers, he shall set up an OSH programme adequate to the nature and size of the establishment. This

programme shall incorporate the following:-

- 1- The policy and goals of the OSH in the establishment.
- 2- The duties and commitments of the employer and the worker.
- 3- The organization and management of the OSH.
- 4- The specified authorities and responsibilities of the establishment's management who are Hauthorized to develop and implement the policies and goals of the OSH.
- 5- The specific work hazards that result from work, the methods of their assessment and the mechanisms for analyzing them.
- 6- The specified protective arrangements, the emergency plans.
- 7- Specified training programmes on the procedures of OSH.

- 8- Specified specifications regarding the purchase or rent of OSH equipment for work.
- 9- The mechanism for monitoring the performance of OSH in the activities of the contractors working with the establishment.
- 10- A timetable for testing the equipment or materials that may expose workers to hazards.
- 11- A timetable for conducting medical examinations for workers.
- 12- Investigation into the work accidents and taking the necessary actions to prevent the repetition of such accidents.
- 13- The procedures that have to be carried out by workers in cases of serious hazards.
- 14- The procedures that have to be carried out by the workers who are exposed to occupational hazards before leaving the work site.
- 15- Prohibitions related to accident site.
- 16- Method of submitting or receiving workers' complaints regarding work hazards and the means of handling them.

The owner of the establishment shall get this programme and its amendments approved by the department or section within 2 months from the date of submitting it should this period lapse without a decision taken, the programme shall be effective.

**Article (11):**

The employer who employs (50) or more workers shall assign a qualified supervisor to handle the OSH work. This supervisor shall directly report to the employer or his representative, and shall set up a plan for OSH, the periodical inspections of all work sites, conducting assessment, protective measures against hazards of work environment using adequate equipment, keep the results accidents and work injuries, occupational diseases and investigate their reasons, if any. He shall keep such results in a special record, prepare reports on them including the ways and precautions that will prevent their repetition. He shall follow up the provision of first aid materials and basic health care for workers including taking the injured to medical centres or hospitals if required. He shall also take part with the professionals in setting up training programmes for the workers to protect them from the hazards of work environment and voice his opinion on the purchase of machinery or materials and to what extent they are adequate to the work environment and shall prepare guiding and warning signboards on all matters related to OSH within the establishment.

**Article (12):**

The employer who employs (50) or more workers shall also be committed to providing the department or section with periodical statistics on

serious accidents, work injuries and occupational diseases that have been established. These statistics shall be submitted in January and July annually.

**Article (13):**

The owner of the establishment shall be committed to notifying the department or section in writing within (24) hours of any serious accident, work injury or occupational disease whose occurrence has been established putting into account notifying the public Authority for social Insurance (PASI) of the work injury that occur to workers covered by insurance .

**Article (14):**

The department or section shall be authorized to ask for certain arrangements to be made in matters that have not been provided for in these regulations in cases that require confronting work – related hazards.

**Chapter 2  
General Arrangements**

**Section (1)  
Work sites**

**Article (15):**

The employer or his representative shall take the necessary actions to provide sufficient protection of the workers safety during their presence in work sites. The following shall particularly be observed:-

- 1- The work site, its buildings, materials and all the equipment used for work must conform with the technical specifications. This commitment shall apply to expansions or additions.
- 2- The size of the buildings must be adequate to the size of the operations excuted in the establishment. The order of the buildings and work sites shall agree with the sequence of the stages of accomplishing operations in the sense that work materials coming from one work area should be directly used by the next work area without being transferred across a far distance.
3. Materials must not be transferred from one work area to the other by hand; instead, movable storage shelves, carriers, revolving

cylinders, conveyor belts or any other adequate method should be used. If the nature of the work requires otherwise, the platform from or to which the materials are transferred must be high enough not to require the worker to bend the upper part of his body.

4. Using hydraulic manual lifters, over head lifters, overhead lifling pulleys to lift, lower or move heavy weights.
5. Safety measures in the design of buildings walls and ceilings must be strong and fire- proof, and their interior must be painted with light colours.
6. The interior surface of the walls must be smooth, easy to clean and free of sharp protrusions and nails.
7. The space allotted for each individual worker must be at least (11  $\frac{1}{2}$ ) cubic meters without considering any height that exceeds (4 $\frac{1}{2}$ ) meters in work rooms, and also the sizes of machinery and work tools. The space allotted for the worker who performs office work should not be less than (7) cubic meters.
8. Floors must be made of hard substances adequate to the nature of the work intended. They must be easy to clean and drain, moisture insulated, not absorbing liquids such as water and oils, flat and free of holes and obstructions that may cause stumbling or falling. They must not be slippery.
9. Drainage ditches and floor ditches must have rails not less than one meter high from the ground level with warning signs, the ditches must be covered with lids not more than (2  $\frac{1}{2}$ ) centimeters high. Their edges should drop with a slant angle not exceeding 30 degrees. The lids must be strong enough to stand the weights of the machinery and vehicles that may tread on them.
10. Provide sufficient space for machinery and equipment and leave passages between machineries to enable workers and equipment used for moving the materials used, and also facilitate adjustment and fixing machinery.
11. Provide passages in the main roads of the establishment adequate to the number of workers, equipments and means of transport. Their floors must be flat and reasonably elevated if seen necessary, not slippery and with edges marked in bright coloures. Sings must be posted showing inlets and exists facilitating easy passage free of boxes and containers or any objects that could obstruct people and equipment.
12. Consider good arrangement when storing materials by specifying the positions of the stored materials using clear signs on floors and putting them on steel shelves. The distances between the stored materials and the ceiling must be at least (3) feet, and providing safe ladders to store or take materials.

13. Specify the positions of facilities, inlets, outlets and emergency exists.
14. High bridges, passages and platforms shall be prepared one or more meters above ground level with unslippery floors surrounded by rails except inlets and the sides where loading is carried out and with fixed ladders.
15. Ladders must be made of fire-proof, unslippery materials with hard, strong floors easy to clean and maintain. The metal network must be tight enough not to allow objects to fall.
16. Fixed staircases with (4) or more steps must be railed on both sides not less than (75) centimeters. If the staircase is fixed to the wall, the railing will be on the free side. The openings of the rails must not allow exist through it. The staircase must be at least (120) centimeters wide and sufficiently illuminated.
17. The staircases must have an elevation of 30 – 35 degrees.
18. Ladders must be properly set before using them. They will be surrounded by a round rail if perpendicular on the ground, and more than (2) meters high.
19. There must be sufficient doors with adequate widths considering the number of workers.
20. Work areas shall not be used as temporary stores for materials, products, equipment or waste.
21. A suitable, adjustable chair with a back rest must be provided for the worker who has to sit to carry out his work. If the worker has to be standing up, a high chair must be provided if the nature of work allows that; otherwise, short rest periods must be allowed to provide for change.
22. Workers must be protected from the hazards of falling, dropping objects, flying chips, sharp objects, caustic or hot liquids or any harmful materials.
23. Water pools close to work areas must be filled up with earth regularly.
24. A suitable, adequately furnished room, with on AC and toilets (if toilets are far away) must be provided for the guard.

**Article (16):**

The employer has to make sure that the conditions prevailing in the work place are sufficiently safe for the workers' health particularly in terms of:-



### **Firstly: Lighting.**

1. Provision of sufficient, adequate, natural or artificial lighting, distributed in the workplace equally, free from direct or reflective rays.
2. Window glass and light inlets must be clean from the interior and exterior permanently and must not be obstructed by any objects.
3. Lamps, stands and light devices must be periodically cleaned and maintained.
4. Provide a system of emergency lighting in cases of failure of normal lighting for cases of failure of normal lighting for whatever reason. The lighting system must clearly show emergency exists for workers to more safety towards exists. Warning devices and extinguishers' positions must be clearly indicates.
5. The attached table (1) of the appendix shall be applied to specify the levels of lighting adequate to the nature of the work. The level must be at a horizontal surface (3) feet from the ground with the exception of passages and paths that will be at a level of lighting not less than (10) LUX.

### **Secondly: Ventilation.**

1. Avoid bad air by providing a natural or artificial ventilation system that provides fresh air in workplaces and use local ventilation where sources of pollutions exist. This system must effectively suck the polluted air out.
2. The number of windows must be sufficient and wide enough to let in sufficient air. The stores must have openings for ventilation in ceilings and at the bottom above ground level.
3. The percentage of oxygen in workplaces should not be less than (21%) of the mount in open air, and not less then (19.5%) in work below ground level.
4. Speed of air in workplace must not exceed (15) meters per minute in winter and (50) meters in summer. If it exceeds these, work should be stopped or moved to another place.
5. The degree of relative humidity in work places must not exceed (80 %), if it dves, work should be stopped or moved to another place.

### **Thirdly: Heat and Cold.**

1. Technical methods should be used to control high temperature, such as insultating and absorbing substances or temperature

- reflecting devices and using local sucking ventilation or local cooling to control heat.
2. Operations of high temperature must be isolated in separate areas where only a minimum number of workers will be affected.
  3. Workers will not work in construction sites or open areas of high temperature at noon, from 12:30 up to 3:30 throughout June, July and August every year.
  4. The attached table (2) will be applied to specify the safe periods of exposure to low temperature.

#### **Fourthly: Noise.**

1. The attached table (3) will be applied to specify the permissible daily exposure to levels of noise.
2. use of possible technical methods to prevent or minimize noise, such as:
  - Greasing and oiling the parts of machines that cause friction or noise.
  - Isolating the noisy operations that exceed the permissible levels far away from workers or using sound insulated rooms.
  - Installation of insulating, absorbing or reflective equipment on noisy machines.
    - Using floors that absorb sound vibrations.
  - Periodically maintaining silencers, machines and equipment.
3. Provision of adequate ear protectors and posting the proper instruction signs.

#### **Fifthly: Drinking Water.**

1. Providing the workers with sufficient drinkable water within easy reach.
2. Provision of tightly closed water tanks made of strong non-corrosive materials connected to two pipes (excess and ventilation). Tanks must be cleaned periodically at least once a year.
3. Distribution of water in the establishment through a network of proper, non-corrosive pipes.
4. Marking the pipes and tanks used for non-drinkable water with a distinct colour.
5. Provision of a reasonable number of water coolers adequate to the number of workers.
6. The drinking water containers must be tightly closed and their water daily changed and the containers washed and cleaned at least twice a week.

7. Bacterial analysis of the groundwater once every (6) months, and chemical testing once a year in one of the government laboratories, to verify its portability. The result of analysis shall be recorded in a special register kept for this purpose.

## **Chapter 2**

### **Facilities**

#### **Article (7):**

The employer shall take all necessary actions to assure that conditions prevailing in the facilities of the workplace are sufficient for safekeeping the safety and health of workers. The following shall particularly be observed:

#### **Firstly: Lighting.**

1. A toilet room with a bathtub shall be provided for every (15) workers.
2. Separate toilets shall be provided for female workers with the same rate, completely separate from men's toilets and with a separate entrance,
3. Toilets must be clean, roofed, with an exhaust fan and sufficient lighting.
4. Toilets doors must not be directly opposite the workplace.
5. The floors of toilets must be tiled, their walls shall also be tiled at least one meter high.
6. Constructing special toilets in workplaces where there is no running water such as building projects and putting reasonable water tanks and ground tanks for waste.
7. Providing bathrooms at the rate of one for (10) workers at least, in industries where the workers bodies may be affected by substances harmful to health.

#### **Secondly: workers' Sleeping Place.**

1. The surface height of the building's floor should not be less than 20 cm. from the level of the exterior surrounding of the living place.
2. There must be enough inlets for ventilation and lighting. All windows must be covered with a network of thin wire.
3. An area of (4) meters must be allotted in sleeping rooms for the worker's bed, leaving at least one meter between one bed and the other. A cupboard shall be provided for each worker for his clothes and personal belongings. Beds shall not be put one over the other or in places other than sleeping rooms.

4. Bed sheets shall be kept clean.
5. The wooden buildings or tents designed for the workers to sleep in must be fire-resistant.
6. Provision of adequate ACs.
7. Providing the living places with drinkable water and one toilet for not more than (10) workers.
8. Provision of tightly closed trash bins.
9. Fighting the various kinds of insects and rodents and sterilizing the rooms and furniture once a year and keeping a record of the results.
10. Workers living places shall not be used as stores.
11. Providing all requirements of emergency cases if workers, living place is far from public services facilities.

### **Thirdly: Places of Serving Food.**

1. Food serving, cooking and storage places must be well lighted, ventilated and all windows covered with a network of thin wire.
2. Places where food is prepared and served, and all the containers used must be clean. All materials used for preparing food and beverages must be kept in clean, tightly closed containers.
3. A separate place must be set apart for cooking.
4. Food serving places must be provided with hand-washing basins, soap and towels.
5. These places must be equipped with sufficient tables and chairs with smooth surfaces.
6. Provide tightly closed waste bins and get rid of the waste regularly.
7. A separate place to be designated for female workers.

### **Fourthly: Clothes Changing Places.**

1. Place of changing clothes must be close to the washing place and far from the sources of harmful pollution.
2. These places will be provided with sufficient lighting and ventilation.
3. The places should be provided with special cupboards for keeping clothes with (2) parts for each worker to keep his work clothes in one, and his normal clothes in the other.
4. These places shall be regularly cleaned and be free of insects and rodents.
5. A separate place for changing clothes should be set apart for female workers.

### **Fifthly: Rest Rooms.**

1. Rest rooms should be close to workplaces.
2. They should be equipped with adequate furniture and ventilation.
3. Regularly cleaned.

### **Chapter 3 The Specifications of Work Clothes And Personal Protection Equipment**

#### **Article (8):**

The employer must provide work clothes and personal protection equipment adequate to the nature of work performed observing the following:

- 1- Work clothes and equipment of personal protection must comply with the specified standard specifications of safe use in accordance with the actual exposure to hazards.
- 2- Raise the workers awareness and train them on the best ways of using, maintaining and well – keeping of such equipment provided, and prepare a guidance directory for the use and maintenance of work clothes and personal protection equipment which is apt to pollution by chemical or biotic hazardous to health. This directory shall be posted in the places specified for the use of such equipment.
- 3- Post clear, visible signs, in language readable in all hazardous areas where entry is prohibited without personal protection equipment.
- 4- Set up a system for keeping, maintaining, cleaning and sterilizing all work clothes and protective equipment used for work in a way that facilitates using them in emergencies.
- 5- Prohibit the transfer of protective materials apt to pollution by chemical, physical or biotic elements hazardous to health to areas outside the place where they are used, and get rid of these materials, if necessary. Safe and adequate methods must be provided for the purpose.

## **Chapter 3 Medical Care**

### **Section 1**

#### **Article (19):**

The employer has to conduct medical examinations on workers nominated for work in conditions where they may be exposed to any of the occupational diseases to assure their physical, mental and psychological capability to work. The examinations must agree with the nature of work and the kind of disease the worker is exposed to.

#### **Article (20):**

The employer must regularly conduct periodical medical tests on the workers who are exposed to any occupational disease in accordance with the occupational diseases table issued by the ministry of health.

#### **Article (21):**

The attached table (4) shall be used for the required analysis according to the type of exposure to occupational diseases.

## **Occupational Diseases.**

#### **Article (22):**

Medical tests shall be repeated on the worker who is exposed to an occupational disease within a period shorter than that stipulated if the worker's health requires such a procedure. All information required by the body conducting the tests shall be provided. Workers who contract an occupational disease will be moved out of the source of the disease either by giving them sick leaves or changing their workplace if the medical authorities see that their continuing work will be dangerous to their health. In this case, the sick person will be assigned to perform another work suitable to his health condition if the medical authorities recommend that. No worker with an occupational disease can be re-assigned to work unless medical tests prove that he is medically fit to perform work. It must be considered that the worker will bear no costs for the medical test and shall not be deprived of his wage for the time he spent in medical tests.

### **Article (23):**

Workers who expose themselves to biotic hazards must be vaccinated, as seen necessary, against contagious diseases that transfer from animals or exposed humans according to the nature of their work.

### **Article (24):**

The employer has to conduct medical examination on workers exposed to contagious diseases when workers are moved from one job to the other or at the end of their services. The results of medical tests must be kept in the worker's file. These results will be kept in a special file even after the end of the worker's service.

### **Article (25):**

There must be one or more first aid boxes in every establishment for medical care considering the following:-

1. The box must contain the requirements of first aid such as the medications and equipment needed for first aid.
2. The box must be close to the water source in a reasonable temperature with nothing in it but the medical requirements. A crescent should be drawn on the box.
3. The inspector may ask for more first aid requirements or their quantity if necessary according to the size of the establishment or its nature of work.

## **Chapter 2**

### **Health Enhancing Places of Work**

### **Article (26):**

The workplace must be supportive to general health by working toward the following:-

1. Promoting healthy food and physical activity in workplace to minimize unhealthy habits.
2. Prohibition of smoking in workplace and providing the workers with programmes that help workers to quit smoking.
3. Enhancing psychological health and social integration of psychologically unstable workers. To achieve this, the following should be observed:-
  - a- Giving them special attention to enable them to adapt with the new work environment.

- b- Avoidance of boredom at work by providing workers with change and by trying to involve them in taking decisions.
- c- Following the appropriate scientific methods of management to prevent troubles between them and the other workers.

**Article (27):**

The worker must inform the employer or his representative of any psychological problems he occasionally or permanently suffers and may affect his performance at work in terms of safety.

**Chapter 3  
Protection of women**

**Article (28):**

The employer must observe not to employ women in any conditions that may expose them to materials, factors or occupational practices that contradict women's physiological capacities or directly or indirectly lead to negative impacts on safe delivery of children or the health or safety of fetus or the infant.

**Chapter 4  
Protection of the Handicapped**

**Article (29):**

The employer must not assign handicapped worker's to any work or occupational practices that do not agree with their factual capacities to perform work in a safe manner.

**Article (30):**

The employer must take various adequate measures to provide work environment, tools, equipment and methods that are used by handicapped workers in agreement with the requirement or work and the nature of the disability in such a way that secures the prevention or minimization of fatigues or the hazards the handicapped worker may be exposed to during work.



## **Chapter 4**

### **Precautions Against Hazards.**

#### **Section (1)**

#### **The Hazards of Fires**

##### **Article (31):**

The employer must provide the necessary methods and equipment for fire fighting for the kind of work being practiced considering the following:-

- 1- Buildings must be constructed of fire-resistant materials adequate to the nature of work. Doors that prevent the spread of fires must be installed in areas where hazardous or inflammable materials are kept.
- 2- An adequate number of well lighted emergency exits must be provided even in cases of power failure. The exits must be free of obstructions, and the doors must open in the same direction of the workers rush in emergencies. In each section of the building there must be at least (2) exits in opposite directions leading to a safe spot. There must be illuminated signs indicating the exits.
- 3- The equipment of fire fighting must be permanently valid and must be periodically tested at least once every (6) months by a professional. These tests must be kept in a special record.
- 4- Fire extinguishers must be kept within easy and speedy reach and a number of workers must be trained to use them and their names and jobs kept. The inspector can ask the number of such workers to be increased in accordance with the size and nature of the work in the establishment.
- 5- Unnecessarily keeping suffocating, poisonous or inflammable gases or liquids whose vapors can be explosive if mixed with air, must be prohibited. If substances such as petrol or any other substances that easily evaporate are used, they must be handled in such a way that secures full protection of their hazards.
- 6- The distances determined by the concerned authorities between work sections to prevent the spread of fires must be strictly observed. The width of the passages between the machinery or equipment or heaps of materials must be at least (75) cm. In workplaces that are apt to fires. The distances, determined by the concerned authorities between the areas that contain inflammable substances and the other areas must also be strictly observed.
- 7- Coating incendiary gas pipes or exhaust pipes of internal combustion machinery be insulating substances.
- 8- Splitting the stores that contain inflammable materials, products or waste using fire-resistant automatic separators and non-

inflammable doors that automatically lock in cases of fire in one section so that it will be isolated from other stores. They must also be provided with automatic fire extinguishers. Each store should be provided with an external power disconnection unit at the end of work or in emergencies.

- 9- Bringing boxes of matches or cigarette lighters in workplaces must be prohibited. No fire should be set in these areas for whatever reason.
- 10- Early warning fire systems must be installed in all areas where explosive or combustible substances are kept or used. The electrical devices must be of safe brands that are not explosive.
- 11- The stored substances must be away from the sources of artificial lighting to assure that no fire will break out because of high temperature. The pressure air and gas cylinders must be kept upright with the valve upwards secured by the head cover to assure the safety of the valve. The factual capacity of stores must be observed to avoid the piling up of the stored materials beyond the capacity of the stores.
- 12- Getting rid of inflammable or combustible industries waste periodically.
- 13- Using safe containers or tanks to store or handle inflammable liquids, observing keeping them in separate stores.
- 14- Classifying the materials to be stored according to their natures and characteristics and setting each separately so that they it will be easy to identify the adequate method of fighting fire in each category in case of a fire according to the kind of the stored materials.

## **Section Two**

### **Mechanical and Electrical Risks**

#### [Article \(32\)](#)

The employer, or his representative shall take necessary precautionary measures to protect workers against mechanical risks by taking the following into consideration:

- 1- On fixing new machinery, or parts of them, protective means shall be provided and such machinery shall be installed properly to ensure safety and avoid posing any threats during their usage. Such protective tools shall not be removed from the machinery unless for cleaning and maintenance purposes and in such cases they shall be re-fixed before operating them.
- 2- Any rotating wheel, movable part, or part of the transmission machinery and any hazardous parts of the other machinery shall be fenced. Such fencing shall be fixed accurately, to prevent access to

the hazardous parts. If this is not possible due to the nature of operation process, overlapping rails shall be used to ensure that the machinery could not be operated unless the rail is in its proper position. In case this could not be achieved due to practical reasons, light ray, or any effective alternative shall be used so that the hazardous part of the machinery stops immediately when it is crossed by any object. The light circuit shall be monitored to continuously check its safety and such circuits shall be equipped with a mobility safety facility.

- 3- The machinery which cause vibrations shall be fixed on solid basis and equipped with vibration absorbent substances.
- 4- The worker must use the ready tool on which he was adequately trained and he must not perform any work which is not part of his responsibilities under any circumstances.

### Article (33)

The employer or his representative shall take precautionary measures to protect workers against electrical threats. He must take the following into consideration:

- 1- The technical terms as required by engineering whether at the power generating plants, power transformers, or power transmission grids and must be met and high pressure warning signals shall be posted.
  - 2- Ensure appropriate arrangements for regular preventive maintenance and adopt suitable methods and technologies to ensure adherence to the safety standards at various electrical facilities and installations and the means used in personal protection field.
- 3- Take adequate measures to ensure protection of non- personnel of electrical facilities whose work nature require them to use fixed, or mobile installations operating with power current, or who come close to electrical installations put under oscillation. Such measures include using the various protection technologies against electrical oscillation.
- 4- Installing electricity cables appropriately and efficiently and equipping all electrical machinery, tools and equipment with current off switches, provided that such switches are insulated, safe and suiting the nature of work at its various sites and they should be fixed in accessible locations to reach them during emergencies.
- 5- Avail and use various additional protection facilities required by maintenance such as oscillation detection indicators, insulation stick, grounding equipment and rubber and wooden insulators.
- 6- Each machine, cable, wires, connections, or switch must meet the endorsed standards which suit the work circumstances and nature.

- 7- Put insulated flooring in front of and behind the power distribution boards.
- 8- Ensure that the machine or tool is safely and properly connected, according to the appropriate technical specifications, including the type of electrical current and oscillation size.
- 9- On installing electrical wires near stoves, a distance of at least one meter shall be kept and such wires shall be wrapped by nonconductor and inflammable substances. Such connections shall be far from humidity sources, water and liquids and shall not be touched by workers.
- 10- In Places where there are steams, gases, flammable, or blast substances which could not be avoided through the technical methods, the workers shall be provided with gas leakage proof installations and the type which prevents sparks. In all cases, the temperature and ventilation of the place shall be amended properly.
- 11- Work towards disposing static power charges in places where flammable, or explosive gases or steams exist, by putting grounding technologies which suits the bodies of tools, machinery and fix protective metal bars around high pressure power equipment which may have electrical charges around them and to maintain proper humidity levels in case of using weak power conductive substances as in the paper, rubber and textiles industry ..etc. and to use static charge complexes which are composed of charges with pointed needles at the various friction points over conductive belts, or paper and fabrics.
- 12- Conduct regular inspection of all electrical cables, wires and connections, to prevent occurrence of any sudden hazards such as fire and electrical shocks.

### **Section Three**

#### **Hazards of lift tools, heavy duty machinery and workers` transport buses**

##### **Article (34):**

The following precautionary measures shall be adopted on using the lift tools, heavy duty machinery and workers` transport buses:

##### **Firstly: Lift tools:**

- 1- The operator of lift tools shall have a driving license, unless operation is part of training and in this case it shall be carried out under supervision of a qualified person.
- 2- Each part of the lifting tools, including all support facilities, shall be fixed properly and made of a durable substance and free of

visible shortcomings and shall be maintained according to the required technical procedures.

- 3- Lifting tools may not be used, unless after being tested and inspected by a specialist to check their safety. Lift ropes and joints shall be re-tested every 3 Month, while lifters and lifting wheels shall be re-tested every 6 Month and crane and weight lifter every 14 Month. In all cases re-testing and inspection shall be carried out, following any considerable change or repair which affect the tool, or its stability. Results of the test and inspection shall be included in a report to be signed by the person who prepared it.
- 4- Signboards about the operation loads shall be placed at visible point on each lifter. The lifter may not be overloaded.
- 5- Any person shall not board the lifter, unless after ensuring that the power current is disconnected from the lifter operation tools. The current shall not be on unless it is ensured that there is no person on the lifter track.
- 6- It may not be allowed to carry any person on a lifter, unless he is provided by a compartment which prevents him from falling when the doors are closed, or it collision with a stationary, or movable object. The compartment shall be provided with a door with a safety lock, or any other equipment which prevents the door from opening; unless it is in the vertical position to unload items. The compartment shall be provided with automatic equipment to ensure that it stops on top of the closer point to the compartment.
- 7- All pulleys around which the chain, or wire rope rotates in any lifter shall have an appropriate diameter. The chain, or rope used must have a suitable structure, or tightly fixed at the end. The remaining part of the rope, or chain shall be enough for two complete cycles in the minimum, in any operation position. It shall be ensured that the wire rope is free from erosion.
- 8- Each lifter, weight lifter, or cogwheel shall be equipped with strong breaks, or any other means to prevent the falling of the load if it stops and to control the load during unloading.
- 9- Each rope used for lifting, or unloading shall be tightly fixed on the lifter hook, to prevent harming any part of the rope. Any hook used for lifting or unloading shall be equipped with an effective equipment to prevent the lifting, or loading rope from pushing away from the hook. Appropriate packing tools shall be used to prevent any friction of the load with the lifting rope.
- 10- The lifting, unloading, or hanging of any load through a knotted chain or cable may not be allowed and it may not be allowed to use any short chain, or a chain connected with nails, or interlocked bolts in lifting and unloading, or hanging any load.

- 11- On using the lifting machine, its operation area shall be appropriately fenced to ensure that no worker collides with any moving part in it and to prevent the falling of any items from the stand to an area outside the lifter's work scope. The lifter shall be provided with efficient automatic equipment to prevent its falling in case of any breakdown of the ropes and to ensure that the stand, or compartment does not pass the remotest point set for its movement.
- 12- The lifter used in public roads shall be provided with the front and rear warning indicators and lights and appropriate fire fighting tools.
- 13- A trained indicators worker, or an indicators equipment shall be provided to guide the lifter's operation worker

### **Secondly: Heavy tools**

- 1- Driving, or handling any heavy tools shall be prevented, unless by the workers who were trained on such tasks.
- 2- Before using, or driving forklifts, tests shall be carried out to ensure the following:
  - The level of coolant of the machine.
    - The level of engine oil.
  - The machine meters and operation keys.
    - The machine wheels.
      - Brakes.
    - Rear vision mirror.
      - Lighting.
    - Fire extinguisher.
      - Safety belt.
    - The machine fork.
  - The machine hydraulic system.
    - The machine battery.
  - Electrical connections and their insulating substances.
    - Fuel tank.
- 3- Persons may not be lifted by the lifting parts to pick any material from high areas.
- 4- The machine shall not be used in case of any breakdown and the Forman shall be informed immediately.
- 5- The machine driver shall not leave it operating and he shall return the moving parts to the ground position and lift the hand break and pull the operation keys before leaving it.
- 6- The protective safety wear shall be put on before using the machine.

- 7- The warning equipment and light flash shall be used when the machine comes close to intersections, or invisible vision angles. The machine shall be provided with a warning equipment to be used in case of moving backwards.
- 8- Driving the machine backwards shall be slow, in case the loaded material prevents vision.
- 9- Sharp slopes and dangerous areas that may cause the machine to overturn shall be avoided.
- 10- Passengers shall not be allowed to enter the driving compartment while the machine is operating.
- 11- The driving compartment shall be closed in areas which may threaten the driver and shall be equipped with windows made of substance which allows clear vision such as durable glass.
- 12- The machine shall be equipped with an air-condition, in case the driving compartment is a closed type.
- 13- The driving speed limit in the work site shall be observed.
- 14- Machines shall not be parked in front of fire taps, or emergency doors.
- 15- Check the weight of material to be lifted to ensure that it does not exceed the lifter's capacity. This weight shall be registered in the lifter's data plate.
- 16- On lifting material through the lifting fork, the distance between the fork and the ground shall not exceed 20 cm and must not be less than 10 cm.
- 17- Batteries of power operated forklifts shall be recharged in an area with good ventilation.
- 18- Any protrusion of body outside the compartment shall not be allowed during driving.
- 19- The doors` height and its suitability to the height of the forklift before passing through it shall be checked.
- 20- The machine shall be provided with a safe stair for embarking and disembarking.
- 21- The driver seat shall be designed from vibration absorbent substances.

### **Thirdly: Workers` transport buses**

- 1- The bus shall be licensed, in reasonable condition and provided with all safety and first aid equipment as well as a fire fighting instrument and a pulling loop in the front bumper and a red light shall be fixed to the bus roof during night operations.
- 2- The bus driver shall have the suitable license.
- 3- The area of the bus windows shall be appropriate and easily open and close.



- 4- The bus shall be equipped with an air-condition, areas for storing the workers belongings, an appropriate number of seats suiting the maximum limit of load and safety belts. Any worker shall not be allowed to stand during the bus movement.

## **Section Four**

### **Risks of manual work tools**

#### **Article (35):**

The following precautionary measures relating to the use of manual work tools shall be adopted:

- 1- The manual work tools used shall be suitable and easily used.
- 2- The weight and dimensions of the manual work tools and the design of their handles shall fit the capabilities of users. If the work nature requires the use of multi manual work tools, or big ones, the adopted arrangements shall include the use of assisting manual transport means.
- 3- Various damaged, or unsafe manual work tools shall not be used and must be disposed of.
- 4- The work desks and platforms used for manual work tools shall suit the storing of same to facilitate and ensure the safety of selecting and circulating them.
- 5- Workers who use multi manual work tools in movable sites shall be provided with appropriate storing and transport means such as leather bags, or boxes designed for this purpose.
- 6- The steps of the movable stairs shall be fixed on the hollow of pillars or supported by auxiliaries to be fixed with straps on the stair and must not be fixed by nails, or any unsafe substance.
- 7- The single stairs shall be provided with hooks to prevent falls, or saw toothed steel beams to prevent slides and steel arms. The distance between the lower part of the stair and wall shall equal quarter of the stair length.
- 8- Paint the metal stairs if it is made of a rustable metal. The floor on which the stairs is fixed must be clean and free of oil, or grease and stairs must not be left on the floor of paths and passages.

## **Section Five:**

### **Risks of boilers and vapor and air reservoir**

#### **Article (36):**

The following precautionary measures shall be adopted when using boilers and vapor and air reservoir



- 1- A separated and appropriate room shall be designated for the boiler.
- 2- Boilers and vapor and air reservoirs shall be made of durable material and in accordance with the protective technical specifications set by the concerned authorities and must be maintained regularly.
- 3- Tests of the vapor boilers shall be conducted every 12 Month and vapor and air reservoirs must be tested every 24 Month by a specialist technician who must prepare a special register which should include the checking date, the person who conducted it and his remarks.
- 4- A disqualified worker may not supervise the operation of boilers and vapor and air reservoirs.

## **Section Six** **Chemical hazards**

### **Article (37):**

Precautionary measures shall be adopted to protect workers against the risks of exposure to the chemicals which leak to the work environment such as gases and dust and the liquids and acids which they may include.

The following shall be taken into consideration:

- 1- Not to produce, use, circulate, store, or dispose of any chemical substances inside the establishment, before obtaining a permit from the concerned authorities.
- 2- Not to start practical usage of chemical substances before obtaining the information relating to the safety of using such substances.
- 3- Open a register for hazardous chemical substances which must include the safety of circulating and using these substances.
- 4- Take appropriate measures to avert workers any health harm, or damage caused by the emanation of gas, dust, waste, or any other defect during work.
- 5- Avail appropriate reservoirs for storing manufactured and raw chemical substances separately and comply with all storing safety requirements.
- 6- Paste the label on each chemical substance which must include the name of the substance, its compounds, trade mark and how to circulate and store it, as well as its risks and how to avoid them.
- 7- Avail the measurement equipment of the chemical factors in the work environment, according to the type of activity practiced and conduct required regular measurements and enlist them in a special register and compare them regularly to ensure that they are within the safe limits set by the concerned authority.

- 8- Avail the requirements of the personal hygiene relating to disposal of hazardous and poisonous chemicals` pollution and prevent circulation of polluted clothes to the workers accommodation sites and clean them inside the work site.
- 9- Acquaint the workers with the methods of using chemical substances and the health safety data included in the label and train them on protective measures.
- 10- Avail the requirements of dealing with emergency cases resulting from using chemical substances, including offering first aid to those injured due to chemical hazards.
- 11- The administrative offices of the personnel must be located outside the stores of hazardous chemical substances which may emit vapor, or gases.
- 12- The worker shall keep himself away from any eminent severe danger which may result from the circulation or usage of hazardous chemical substances.

## **Section Seven**

### **Risks of harmful rays, occupational cancer and asbestos**

#### **Article (38)**

The employer, or his representative shall take required measures to provide adequate protection for the workers against the hazards of harmful rays during their presence in the workplace, particularly in the following:

- 1- Post appropriate warnings to highlight that there are risks of harmful rays.
- 2- Use the technical means which prevent, or curb access of harmful rays to the workplace such as protective fences and others.
- 3- Not to expose workers to harmful rays, unless necessity arises.
- 4- Locate the harmful ray polluted areas outside the areas where the ray source is used, by applying an appropriate settlement system of the rays source work centers within the establishment.
- 5- Not to employ any person under 16 years in works involving exposure to ionic rays.
- 6- The attached table No. (5) identifying the limits of safe exposure to radioactivity shall be effective. The total doses of practical exposure doses of each worker shall not exceed one sievert.
- 7- During exposure to ultraviolet rays and in cases of using rays with specter scope ranging between 320 nanometer to 400 nanometer, the force of the ray falling into the eye and unprotected skin shall not exceed 1mm watt for a period of more than 16 minutes and not to exceed 1 joule if the exposure period is less than 16 minutes.

### **Article (39):**

The owner of the establishment shall take all appropriate measures to protect the workers exposed to the hazards of carcinogenic substances, or those resulting from manufacturing operations. The following shall be taken into account:

- 1- Seek non carcinogenic substances to substitute the carcinogenic substances.
- 2- Reduce the number of workers exposed to carcinogenic substances and assisting factors to the minimum, through the use of closed industrial operations.
- 3- Reduce the period and extent of exposure to carcinogenic substances and assisting factors to the minimum, to ensure the safety and health of workers exposed to such substances.
- 4- Use secured work methods and lay down required measures to monitor the work circumstances regularly.
- 5- Put warning signs in the workplace where the workers are exposed to carcinogenic substances.
- 6- Avail the equipment of carcinogenic substances` measurement, according to the type of activity practiced and conduct required regular measures and enlist them in a special register and compare them on regular basis to check that they remain within the safe limits set by the concerned authorities.

### **Article (40):**

The employer, or his representative shall take required measures to protect the workers against the hazards of all types of the asbestos in the workplace. The following shall be taken into consideration:

- 1- Not to use the asbestos in building workers accommodation.
- 2- Replace the asbestos wherever it is possible, by using other substances or products, or alternate harmless technology.
- 3- Ban the use of the kerosodolet and products which contain this type of fiber.
- 4- Ban spray by all types of asbestos.
- 5- Take precautionary measures to prevent scattering of the asbestos dust in the air and control it and reduce exposure to it to the minimum.
- 6- Not to wear work uniforms polluted by the asbestos dust outside the workplace. Such clothes must be cleaned according to a hygienic and safe method to prevent the scattering of the asbestos dust. The employer or his representative shall be responsible for cleaning, maintaining and storing the work uniforms and the personal protection tools.
- 7- Avail washing areas for the workers exposed to asbestos near the work site.

- 8- Dispose of the asbestos waste by packing them properly and safely in durable packs which are free of air to unload them in special areas.
- 9- Take precautionary measures to measure the concentration degree of the asbestos dust in the air in the workplace on daily basis. A special register shall be prepared for this purpose and maintained as long as the establishment continues its work.

## **Part Five**

### **Special Precautionary Measures**

#### **Section One**

Measures of Construction, Drilling, Demolition & Civil Engineering Works

#### **Article (41):**

The employer shall take precautionary measures to protect the workers of construction, drilling, demolition and civil engineering works, particularly in the following:

- 1- The drilling begins from top to bottom. The sides shall have appropriate bends, according to the type of soil. The sides of holes whose depth exceeds 1.5 meter shall be supported by durable wood rafters and warning signs shall be put around the holes and dust shall not be allowed to accumulate near the holes.
- 2- The demolition works begin from the top storeys in the presence of a qualified supervisor. The debris must not be thrown from top and shall be removed either by cranes, or bent fenced passages. The whole site shall be fenced and precautionary measures shall be taken to ensure that no other persons than those involved in the demolition are there.
- 3- The debris shall be sprayed by water during the demolition process.
- 4- Take all practical measures by using cushions, poles and other fixing means to ensure that persons are not exposed to danger in case of collapse of any part of the building due to transitional weakness, or instability of the building, or constructions or any part of them before the construction work is completed.
- 5- In case the work is performed from a higher point, or from any part of a building, or any other constant building, jacks or stairs shall be provided and fixed at the work place and maintained. Such jacks, or stairs must be adequate, suitable and safe to perform the required work.
- 6- The jacks must be fixed, changed, or unfixed by a specialist, who shall check them once a week in the minimum and write down the result of the checking on a special register.

- 7- On fixing the jacks, the poles and pillars must be vertical, or slightly leaning towards the building and must be closed to each other to ensure the reinforcement and balance. The crossing wood pieces and horizontal rafters must be tightly interlinked with the poles
- 8- The jack must be made of adequate, perfect and suitable for its purpose and they shall be supported by joints, if it is necessary. In case that one of its part is inadequate, or not meeting the requirements, access to it must be forbidden by putting a visible signboard, until it is repaired, or replaced.
- 9- Wheeled jacks must be placed on a constant and flat surface and shall be provided with an additional weight in the bottom, or strapped. The wheels must have a lock and they must not be moved unless from the bottom while someone is on top of it. The jack must not be overloaded.
- 10- The material of jacks, tools and waste must not be thrown from a high place and should be landed properly, unless an appropriate sledge is used.
- 11- The stairs leading to the jack, or part of it must be fixed, in order not to allow its slip at the upper and lower parts and the stair sides must be supported properly.
- 12- Any stair which is repaired by digging nails, or whose broken parts tied by a wire ,or rope , or a one with more than broken ,or lost ,or wrongly placed step ,or painted in a way which makes it difficult to detect any cracks may not be used.
- 13- The stair must not be used if the landing , or work point exceeds 10 meter above the ground, unless the landing station is prepared within a distance of no more than 10 meters from the ground.
- 14- Unnecessary material and waste may not be put in a way which hinder the workers` movement on the work platforms, bridges and other areas where they pass. Such material must be arranged and stored and slippery if any must be removed from the platform or bridge floor.
- 15- All holes in uncovered roofs must be surrounded by side fences to prevent the fall of persons, or things from them. Durable shades must be made above passages to protect the passersby from the fall of construction material.
- 16- In case the process of manufacturing, cleaning, spray, exhale ,or processing results in dust, or vapor which may threat the workers lives, all required precautionary measures must be taken to protect the workers.
- 17- Internally combusted engines fixed in a closed area shall be banned, unless after taking required measures by extending pipes to transport the combustion gases and vapors from the engine to

- the outer space, or take any steps that avert the hazards of such gases.
- 18- The worker may not be asked to lift, transport, or move a heavy weight that may injure any part of his body.
  - 19- Any board with nails shall not be left on areas which may harm any one.
  - 20- The workplace and paths leading to it and the areas where the loading and unloading operations are carried out and all dangerous holes must be provided with adequate and proper lighting.

## **Section Two Agriculture and Animal Breeding Works**

### **Article (42)**

The employer shall take precautionary measures to protect workers who carry out agriculture and animal breeding tasks, particularly in the following:

#### **Firstly: Agricultural tools and machinery:**

- 1- If the machine is provided with a driving room, it must allow clear vision to the front, and rear directions and it shall be provided with a comfortable seat.
- 2- Bulldozers and plows must be provided with a first aid kit and a healthy potable water dispenser.
- 3- The machines of grains and dry fodder must be equipped with a fire extinguisher and the exhaust pipe must be equipped with a flame preventor.
- 4- Electrical wires of the electrically operated machines must be completely and properly insulated.
- 5- Any person must not be allowed to sit beside the driver, unless an additional seat is provided.

#### **Secondly: Manual Field Works:**

- 1- The workers must be provided with appropriate rest and bathing areas and they shall be protected against the sun heat.
- 2- Stairs must be used in fruit plucking, or trees cutting and cleaning in high areas.

### **Thirdly: Insecticides and Fertilizers Usage**

- 1- Insecticides packs must be carefully opened, particularly in areas with high temperatures.
- 2- Spray solutions must not be mixed by hand and it is preferred to use machines for this purpose.
- 3- While spraying in open areas, the splashes flow must be in the wind direction and it is banned to spray during heavy winds.
- 4- In closed areas such as plastic warehouses and houses, the direction of spray on walls must not exceed a 60 degree angle.
- 5- Warning signboards must be placed in areas which are chemically sprayed, or treated.
  - 6- The first aid kit must be carried by the fighting team.
- 7- Prepare buildings, houses and warehouses before carrying out insect and pest fighting operations by filling cracks, pasting windows and ensuring that all potentials of required ventilation such as the opening of windows and doors from the outside is available. Protective masks shall be provided.
- 8- Evacuate buildings and places that need complete treatment and put warning signboards on them.
- 9- Store the fighting material in appropriate stores with good ventilation and lighting.
- 10- The remains of fighting material, washing of items and clothes used in such operations must not be thrown in the irrigation channels and pools.
- 11- The fighting packs must not be used for other purposes.

### **Fourthly: Animal Breeding:**

- 1- The cattle and poultry yards shall be built of durable material and must be provided with good lighting and ventilation. The flooring of such buildings must be made of cement to ensure good drainage.
- 2- Not to fill yards with animals and to maintain regular cleaning of yards by washing the floors and clean walls, roofs and fed areas and drinking basins and dispose of waste properly.
- 3- Conduct regular checkup of animals and isolate the sick ones until required precautions are taken.
- 4- Speedy disposal of the dead animal bodies by burying, or burning them and in case of dealing with a dead animal due to communicable disease, the work uniform must be disposed of by burning them.
- 5- Avoid humidity during the storing of fodder by drying it in an open area under the sun for an adequate period. The storing areas must be well ventilated and the fodder temperature must



be monitored during the first six weeks and when signs of fermentation emerges.

- 6- Eating and drinking inside the yards, or near them shall not be allowed under any circumstances. Drinking fresh non pasteurized milk from the animal directly shall not be allowed.
- 7- Fight mosquitoes and rodents in fields and animal breeding areas.

### **Section Three Sea Port Works**

#### **Article (43):**

The employer shall take required precautionary measures to protect the workers at sea ports, particularly in the following:

- 1- Not to task any worker to work in ports before he is properly trained. The worker's register must include a proof that he has passed the training course.
- 2- Ensure durability and adequate safety in the usage of goods and transport platforms and other means and tools used for catering, or supporting loads, all fixed and movable lifting tools and equipment used in ports.
- 3- Prepare and implement a program for the regular detecting, testing and maintaining the various means used in ports, including the lifting tools and equipment to ensure the continuity of the safe usage of such tools. Such a program must be implemented by the concerned authority and its results must be mentioned in a special register. Accredited certificates of this program shall be issued.
- 4- The various equipment and machinery used in lifting and transporting material and goods must be clearly marked by the safe operation loads.
- 5- The employer must prepare the safety instructions relating to the goods and material lifting and transport means in an understandable language. Such instructions must be pasted permanently on such means and on appropriate places.
- 6- Unloading, loading and storing of goods and other material shall be carried out according to safe and proper methods and means and attention must be paid to the nature of such material and goods.
- 7- Not to transport, or store hazardous goods and material, before ensuring that they are well packed and labeled.
- 8- In case the containers of any hazardous substances are damaged in a way which threatens the safety of workers, or the adjacent areas, work in the threatened areas must be ceased and workers have to be shifted to safe areas. Work shall not be resumed before ensuring that the danger adequately removed.



- 9- Take various possible technical procedures to prevent the occurrence of accidents, or threats which may result from working in closed areas.
- 10- Avail and operate an appropriate mechanical ventilation system in all wards and stores which may include gases, vapors, or dust.
- 11- The stores and storing operations of hazardous substances must meet the technical requirements set for the safe storage and circulation of such substances.

**Table No. (1)**  
**Lighting Levels**

| Work environment   | Minimum limit of lighting |
|--|---------------------------|
| Areas which are entered for short periods such as transitional storing and loading and unloading areas.                                  | 50                        |
| Areas where visual tasks which rely on lighting in short periods are performed such as the staircase area.                               | 100                       |
| Areas where visual works of high degree of variety are performed such as the paste mixing at a bakery, spray and wood works.             | 200                       |
| Work in areas where visual works of moderate variety are performed such as barber shops, restaurants, auto repair and machine workshops. | 500                       |
| Work in areas where visual tasks of little variety are performed such as textile works   | 1000                      |
| Work in areas where visual tasks of little variety tasks which continue for longer periods are performed such as tailoring.              | 2000                      |
| Work in areas where accurate visual tasks are performed during longer periods such as accurate manual welding tasks                      | 5000                      |
| Work in areas where small size visual and low variety visual tasks are performed such as clothes manufacturing.                          | 10000                     |

**Table No. (2)**  
**Limits of exposure to low temperatures**

| Temperature degree    | 1 to 18          | 19 to 35   | 36 to 57                          | 58 to 74     |
|-----------------------|------------------|--|-----------------------------------|--------------|
| Daily exposure period | No maximum limit | 4 hours alternately.<br>One hour on and one off. | One hour divided into two periods | Five minutes |

**Table No. (3)**  
**Limits of exposure to Noise**

| Disables                       | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 |
|--------------------------------|----|----|----|----|-----|-----|-----|-----|
| Daily exposure period per hour | 16 | 8  | 4  | 2  | 1   | 2/1 | 4/1 | 8/1 |

**Table No. (4)**  
**Required checkup and analysis according to the type of exposure to some occupational diseases**

| Name of occupational patient   | Required analysis  |
|--|--|
| Poisoning by lead and its inorganic components   | Measuring the lead concentration in blood  |
| Poisoning by mercury and its effects   | Measuring mercury concentration in urine.  |
| Poisoning by arsenic and its effects   | Measuring arsenic concentration in urine and blood.  |
| Poisoning by antimony and its effects  | Measuring antimony concentration in urine.   |
| Poisoning by benzyl and its amidic, or azotic components                                       | Complete blood count ( hemoglobin – blood plates – white blood cells                                     |
| Poisoning by manganese and its effects   | Measuring the manganese concentration in blood.  |
| Poisoning by sulfate and its effects   | In case of exposure to dioxide sulfide carbon ( analyzing iodine azotes in urine)                        |
| Effect of chrome and resulting ulcers  | -----  |
| Poisoning by cyanic acid and its components  | -----  |
| Poisoning by monoxide carbon   | Measuring the average of carboxyl hemoglobin in blood, plus cardiograph.                                 |
| Poisoning by chlorine, fluoride and brome  | Those exposed to fluoride must undergo X ray for the vertebra lumbales and vertebra sacrales and pelvis. |
| Poisoning by petrol, its gases or derivatives.   | -----  |
| Poisoning by chloroform and 4 chlorine carbon  | In cases of exposure to and 4 chlorine carbon the worker must undergo S.G.P.T.                           |
| Poisoning by 4 chlorine ethylene and 3 chlorine ethylene                                       | Analysis of blood keratin and S.G.P.T.   |
| Pathological diseases and symptoms resulting from radium and radioactive substances, or X ray. | Complete blood count (hemoglobin – blood plates – white blood cells)                                     |
| Skin cancer, and acute infections and ulcers of the skin and eye.                              | ---  |
| Any temperature effect on the eye  | Checkup of the eye, particularly the eye lens.   |
| Diseases of the lung which are caused by dust.   | Chest X ray plus PFT.  |
| TB   | Chest X ray.   |
| Occupational deafness  | ----   |
| Diseases caused by all types of vibration  | -----  |

**Table No. (5)**  
**Limits of exposure to radioactives**

| Workers exposed to radioactives   |  | Safe exposure limits per mm sievert in the year                                |     |
|---|--|--|-----|
| Those who work directly on a source of radioactive  | Exposure of total body<br>Exposure of eye lenses<br>Exposure of skin.<br>Exposure of limbs | 20   |     |
|   |  | 150  |     |
|   |  | 500  |     |
|   |  | 500  |     |
| Workers who practice occupational activities directly linked to areas and works connected with radioactives |  | 3/10 of the limit set for workers who directly work on a source of radioactive |     |
| Those who work directly on a source of radioactive  | Worker neighboring areas which use sources of radioactives                                 | Exposure of total body   | 1   |
|   |  | Exposure of eye lenses   | 15  |
|   |  | Exposure of skin   | 50  |
|   |  | Exposure of limbs  | 50  |
| Juvenile trainees whose training filed is directly linked to sources of radioactives                        |  | Exposure of total body   | 6   |
|   |  | Exposure of eye lenses   | 50  |
|   |  | Exposure of skin   | 150 |
|   |  | Exposure of limbs  | 15  |
| Juvenile trainees whose training filed is not linked to sources of radioactives                             | 1/10 of the annual exposure dose for juveniles who work directly on sources of radioactive |  |     |
| Working women   | Those who work directly on sources of radioactive  | 20   |     |
|   | Pregnants and breast feeders   | 2  |     |