

NOVEMBER 2015

QUESTION 1 ACT

1.1 Define the following terms as given in the Occupational Health and Safety Act:

1.1.1 Health and safety equipment (1)
means any article or part thereof which is manufactured, provided or installed in the interest of the health or safety of any person.

1.1.2 Health and safety standard (1)
means any standard, irrespective of whether or not it has the force of law, which, if applied for the purposes of this Act, will in the opinion of the Minister promote the attainment of an object of this Act

1.1.3 Organism (1)
means any biological entity which is capable of causing illness to persons

1.1.4 User (1)
in relation to plant or machinery, means the person who uses plant or machinery for his own benefit or who has the right of control over the use of plant or machinery, but does not include a lessor of, or any person employed in connection with, that plant or machinery

1.2

7
In terms of Section 7 of the Act, the chief inspector may direct any category of employers by notice in the Government Gazette, to prepare a written policy concerning the protection of the health and safety of his or her employees at work. The chief inspector has published such a notice on 2 September 2005 under Government Notice No. R. 859. In this notice the chief inspector identified inter alia, electric cable manufacturing; safety razor blade manufacturing; wagon, coach, carriage and motor body building as a separate business; and also panel beating and spraying as a separate business.

1.2.1 Name TWO other categories of industries directed in the notice. (2)

1.2.2 What guidelines concerning the contents of the health and safety policy did the chief inspector give in the notice? (2)

OHSAS18001: Occupational H&S Management System – Specification

OHSAS 18002: Occupational H&S Management System – Guidelines for implementation of OHSAS 18001

1.2.3 Once an employer has prepared the written policy, what must he or she do with the document? (2)

An employer shall prominently display a copy of the policy referred to in subsection (1), signed by the chief executive officer, in the workplace where his employees normally report for service

[10]

QUESTION 2 ACT

2.1

17
Every employer has to designate in writing for specific periods, health and safety representatives for the workplace or different sections of the workplace.

17(1)

2.1.1 When is it not necessary to make such an appointment? (1)
every employer who has more than 20 employees in his employment at any workplace

17(4)

2.1.2 Who may be appointed as health and safety representatives? (1)
Only those employees employed in a full-time capacity at a specific workplace and who are

acquainted with conditions and activities at that workplace or section thereof
17(5)

2.1.3 How many representatives must be appointed in a factory? (1)
in the case of all other workplaces at least one health and safety representative for every 50
employees or part thereof

17(5)

2.1.4 How many representatives must be appointed in shops and offices? (1)
shall in the case of shops and offices be at least one health and safety representative for
every 100 employees or part thereof

17(7)

2.1.5 When must the representatives carry out their functions? (1)
designation, functions and training of health and safety representatives shall be performed
during ordinary working hours

2.2 18(1)

A health and safety representative may perform various functions such as to investigate
complaints of employees, inspect the workplace and participate in consultations with
inspectors.

Name TWO other functions a health and safety representative has to perform in terms of
Section 18. (2)

(a)

review the effectiveness of health and safety measures;

(b)

identify potential hazards and potential major incidents at the workplace;

(c)

in collaboration with his employer, examine the causes of incidents at the
workplace;

(d)

(e) make representations to the employer or a health and safety committee on
matters arising from paragraphs (a), (b), (c) or (d), or where such
representations are unsuccessful, to an inspector;

(f)

make representations to the employer on general matters affecting the health
or safety of the employees at the workplace;

(g)

(h)

(i)

receive information from inspectors as contemplated in section 36; and

(j)

in his capacity as a health and safety representative attend meetings of the
health and safety committee of which he is a member, in connection with any
of the above functions.

2.3 19(1)

When must you appoint a health and safety committee? (1)
where two or more health and safety representatives have been designated

2.4 20

A health and safety committee may make recommendations to the employer or, where it fails
to resolve the matter, to an inspector.

Name TWO other functions a health and safety committee has to carry out. (2)

(a)

- (b) shall discuss any incident at the workplace or section thereof in which or in consequence of which any person was injured, became ill or died, and may in writing report on the incident to an inspector; and
- (c) shall perform such other functions as may be prescribed.

[10]

QUESTION 3 GAR & DMR

3(a) GAR

3.1 Define the following terms as given in the General Administrative Regulations, 2003:

3.1.1 CCMA (1)
means the Commission for Conciliation, Mediation and Arbitration established by section 112 of the Labour Relations Act

3.1.2 WCL 1, WCL 2 and WCL 22 (1)
means the prescribed forms for reporting of incidents and occupational diseases referred to in the Compensation for Occupational Injuries and Diseases Act.

3.2 6(5), (6) & (7)

If there is a dispute between the employer and the trade union or employee representatives about the nomination or election of health and safety representatives or the manner in which vacancies must be filled, what must the parties do to resolve the matter? (2)

(5) If a dispute exists in terms of subregulation (4), any party to the dispute may refer the dispute to the CCMA or Bargaining Council.

(6) If a dispute is referred to the CCMA or Bargaining Council under subregulation (5), the CCMA shall attempt to resolve it through conciliation.

(7) If a dispute remains unresolved, any party to the dispute may request that it be resolved through arbitration, in which case the CCMA shall, taking into account the objectives of the Act and the proposals of the parties, determine the arrangement and procedures for the nomination or the election of the health and safety representatives.

3(b) DMR

3.3 Define the term *point of operation* as given in the Driven Machinery Regulations. (1)
means the place in a machine where material is positioned and where the actual work is performed

3.4 8(3) [9(3)] (2)
In what manner must a grinding wheel be mounted on the spindle of a power-driven grinding machine?
cause every grinding wheel of a power-driven grinding machine to be mounted concentrically on the spindle by means of robust metal flanges with annular peripheral bearing surfaces of adequate breadth, which shall bear upon the wheel, and a layer of suitable compressible material to be fitted between the flanges and the wheel

3.5 9 [10(1)] (1)
Name ONE of the safety measures you may apply where the point of operation in a guillotine is greater than 10 mm.
a) a fixed guard that prevents hands or fingers reaching through, over, under or around the guard into the point of operation,
b) a self-adjusting guard that automatically adjusts itself to the thickness of the material being worked and prevents hands or fingers reaching through, over, under or around the guard into the point of operation,
c) a manual or automatically operated guard that completely encloses the point of

operation of such machine, is arranged that the working stroke cannot be commenced unless the guard is closed, and cannot be opened unless the ram or blade is stationary,
d) an automatic sweep-away or push-away that any part of the operator's body out of the danger zone when the working stroke commences, or
e) an electronic presence-sensing device that prevents or arrests a working stroke if it senses that any part of a person's body or any other foreign object is in the danger zone,

3.6 18(9)(a)&(b)

What must you provide on your jib-crane which has a lifting capacity of 10 000 kg at minimum jib radius? (2)

- a) a load indicator that will indicate to the operator the mass of the load being lifted, and/or
- b) a load limiting device which will automatically arrest the driving effort whenever the load being lifted is greater than the rated mass load (safe working load) of the jib crane at that particular radius.

[10]

QUESTION 4 GSR

4.1 Define the term *confined space* as given in the General Safety Regulations, 1986 as amended. (2)

means an enclosed, restricted or limited space in which, because of its construction, location or contents, or any work activity carried on therein, a hazardous substance may accumulate or an oxygen-deficient atmosphere may occur, and includes any chamber, tunnel, pipe, pit, sewer, container, valve, pump, sump or similar construction, equipment, machinery or object in which a dangerous liquid or a dangerous concentration of gas, vapour, dust or fumes may be present.

4.2 2(C)

What are the requirements for the entry of a workplace of persons other than employees? (2)
post a notice at every entrance to a workplace prohibiting the entry of unauthorised persons to such workplace and no person shall enter or remain at such workplace without the permission of the employer or user.

4.3 3)

Who may issue a valid certificate of competency in first aid? (2)

- a) SA Red Cross Society
- b) St John's Ambulance
- c) SA First Aid League

4.4 8(5)

Under what conditions may you allow a free standing stack of containers with a regular shape to be stacked more than three times the smaller dimension of the underlying base? (2)

- built with the aid of machinery
- with approval of an inspector
- no overhang
- operator of stacking machine is rendered safe from falling articles.

4.5 You are the owner of a welding business.

9(2)

4.5.1 What steps must you take where flame cutting and welding is required in a confined space? (1)

- a) provide and maintain effective ventilation
- b) operators have masks and hoods maintaining a supply of safe air for breathing

9(5)

4.5.2 You have to carry out hot work, involving welding and brazing, at a place other than your workplace which has specifically been designed and equipped for such work.

What steps must you take? (1)
ensure that proper and adequate fire precautions are taken.

[10]

QUESTION 5 Environmental

5.1 Define the following terms as given in the Environmental Regulations, 1987 as amended:

5.1.1 Exposed (1)
means exposed whilst at work

5.1.2 Illuminance (1)
means the intensity of light falling on a surface, measured in lux.

5.2 2
You have various cold rooms where employees have to enter and perform work. What are the maximum periods of exposure for the following conditions?

5.2.1 0 to minus 18 degrees Celsius (1)
no limit

5.2.2 Minus 18 to minus 34 degrees Celsius (1)
50 min in each hour – 10 min in comfortable warm environment under supervision

5.2.3 Lower than minus 57 degrees Celsius (1)
5 min during any 8 hour period

5.3 In view of emergency evacuation of indoor workplaces where night shifts are being worked, and due to load shedding of electricity, you have to provide emergency sources of lighting.

3(5)(a)
5.3.1 When must the emergency sources of lighting be activated? (1)
within 15 seconds

3(4)
5.3.2 What must the minimum illuminance of the emergency lighting be at floor level to enable employees to evacuate safely? (1)

0,3 lux at floor level

3(4)
5.3.3 What must the minimum illuminance of the emergency lighting be where it is necessary to stop machinery before evacuation? (1)

not less than 20 lux

5.4 9(2)
On your factory premises there is a 200 m² room where 20 employees use a flammable glue in the process to manufacture leather products.

What are the requirements for fire-fighting equipment for this room? (2)

an adequate supply of suitable fire-fighting equipment at strategic locations or as may be recommended by the fire chief of the local authority and which shall be maintained in good working order

[10]

QUESTION 6 PER

6.1 Define the following terms as given in the Pressure Equipment Regulations, 2009:

6.1.1 Risk-based inspection (1)
means an inspection scope based on the results of a formal risk assessment, including inspection and test intervals

6.1.2 Manufacturer (1)
means any person who has overall control and is responsible for the construction of the pressure equipment

6.1.3 Latent defect (1)
means a fault inherent in pressure equipment, resulting from deficiencies in the design or manufacturing process that may cause a health and safety risk

6.2 3(3) & 4(1)
In addition to compliance with all the requirements of the various relevant standards incorporated into the regulations, what must all pressure equipment be subjected to for use in the RSA? (1)
it shall be conformity assessed and subjected to the requirements set out in SANS 347

6.3 4(5)
A manufacturer of pressure equipment shall comply with any duty assigned to him or her by these Regulations.
What must the manufacturer do when he or she determines that pressure equipment manufactured by him or her and which is already in use, has a latent defect? (1)
advise the chief inspector in writing forthwith thereof and of measures being taken to correct the defect

6.4 5(2)
In the case where pressure equipment is imported and the designer and manufacturer is in the country of origin where they cannot be legally held liable in terms of RSA legislation, who shall assume the liability of the manufacturer in terms of these Regulations? (1)
the importer

6.5 7(4)
Pressure equipment requires a permit of verification issued by an organisation approved by the chief inspector verifying compliance with the requirements of relevant health and safety standards incorporated into these regulations. Local and foreign inspection bodies operating in the RSA need approval from the chief inspector before they may issue such permits.
What imported pressure equipment is deemed to meet the requirements of these Regulations? (1)
equipment stamped by an ASME authorised manufacturer in compliance with the full ASME Code of Construction

6.6 An internal and external inspection and a hydraulic test must be carried out by an approved inspection authority for in-service inspection on every pressure vessel and steam generator, excluding category I equipment, at intervals not exceeding 36 months.

11(1)(d)

6.6.1 What is the maximum period which the 36 month intervals for internal inspections and hydraulic tests may be extended where a pressure vessel or steam generator is not subject to deterioration processes? (1)

9 years or shorter period required by the chief inspector

12(1)

6.6.2 What may you do as an alternative to the in-service inspection and testing requirements? (1)

implement a risk-based inspection management system as per incorporated standard

12(2)

6.6.3 Who must verify this alternative inspection process? (1)

a certification body accredited by SANAS

[10]

QUESTION 7 Noise Induced Regs

7.1 Define the following terms as given in the Noise-induced Hearing Loss Regulations, 2003.

7.1.1 Hearing protective equipment (1)

means ear-muffs or ear-plugs of a type or conform to the standard

7.1.2 Exposed (1)

means exposed to noise while at a workplace

7.2 7(1)

You have carried out an assessment of the noise levels in a specific area at work and it indicates that there are employees who may be exposed to noise above the noise-rating limit of 85 dB (A). You now have to carry out a measurement programme of noise exposure at the workplace.

Name THREE requirements that must be complied with when you carry out the measurement programme of noise exposure. (3)

- a) carried out in accordance with the provisions of these regulations
- b) carried out only after the relevant h&s reps or h&s committee has been informed
- c) carried out by an AIA
- d) be representative of the employees' exposure to noise

7.3 10(2)

You have to ensure that the exposure of persons to noise is either prevented or, where this is not reasonably practicable, adequately controlled.

Where you cannot prevent exposure, name the THREE measures, in the order of priority, to control the noise. (3)

- a) selection of at least 3 locations representative of all locations of exposure
- b) measure approximate position of employees ear receiving higher noise level
- c) representative measures are carried out at least every 24 months

7.4 13

You have to ensure that the hearing protective equipment you provide is subject to maintenance and control measures.

13(a)

7.4.1 What must you achieve by the maintenance you have to carry out on hearing protective equipment? (1)

maintained in an efficient state, in good working order and in good repair and cleanliness

13(b)

7.4.2 What control measures must you apply? (1)

is fully and properly used

[10]

QUESTION 8 HCSR

8.1 Define the following terms as given in the Hazardous Chemical Substance Regulations, 1995 as amended:

8.1.1 Respiratory protective equipment (1)

means a device which is worn over at least the mouth and nose to prevent the inhalation of airborne hazardous chemical substances and which is of a type, or conforms to a standard approved by the Minister

8.1.2 Respirator zone (1)

means an area where the concentration of an airborne hazardous chemical substance exceeds the recommended limit for that substance

8.2 3

In the manufacturing of a product you are using a harmful substance for which an occupational exposure limit is prescribed and which is regarded as a hazardous chemical substance. You now have to ensure that your employees are adequately and comprehensively informed and trained about the safe use of this substance.

8.2.1 Name THREE items to be covered by such information and training. (3)

- a) contents and scope of these Regulations
- b) potential source of exposure
- c) potential detrimental risks to health caused by exposure

- d) potential detrimental effect to exposure on reproductive ability
- e) measures to be taken by employers to protect employees against risk from exposure
- f) precautions to be taken by employees to protect themselves against h&s risks associated with exposure
- g) necessity, correct use, maintenance and potential of safety equipment, facilities and engineering control measures provided
- h) necessity of personal air sampling and medical surveillance
- i) importance of good housekeeping at the workplace and personal hygiene
- k) procedures to be followed in the event of spillages, leakages or similar emergency situations which could take place by incident

8.2.2 After the initial training, at what intervals must your employees receive such information and training? (1)
 intervals as may be recommended by the health and safety committee

8.3 8
 After air monitoring, part of the workplace under your control has been identified to have such a concentration of an HCS in the air that the exposure of employees working in that area will exceed the recommended exposure limit when not wearing respiratory protective equipment.
 What must you now do? (2)
 - the respirator zone is clearly demarcated and identified by notice that it is a respirator zone where respirator equipment must be worn
 - no person enters or remain in respirator zone without wearing respirator

8.4 15
 An employer shall, as far as is reasonably practicable, recycle all HCS waste.
 Name TWO steps how you have to ensure safe disposal of HCS? (2)
 b) all collected waste is placed in containers preventing exposure
 c) all vehicles, re-usable containers and covers which were in contact with HCS waste are cleaned and decontaminated after use
 d) HCS disposed only on sites for it into Envir Conser Act
 e) all employees who may be exposed are provided with suitable PPE
 f) if services for waste collection is contracted out, provision to be in contract that contractor shall comply with these Regulations

[10]

QUESTION 9 Constr Regs

9.1 Define the following terms as given in the Construction Regulations, 2009.

9.1.1 Agent (1)
 means any competent person who acts as a representative for a client in managing the overall construction work performed for that client

9.1.2 Competent person (1)
 a) having the knowledge, training, experience, and where applicable, qualifications specific to the work or task being performed: or qualifications and training registered with SAQA
 b) declared competent by accredited assessor institution

9.2 You intend to extend a section at the factory and to carry out the construction work as an owner builder.

3(1)

9.2.1 Name TWO conditions for which you have to inform the provincial director in order to obtain a permit and site specific number before you may carry out the construction work. (2)
 a) work exceed 30 days or >300 person days of work
 b) include excavation work
 c) include working at height where risk of falling

- d) include demolition of a structure
- e) include use of explosives to perform construction work

3(5)

9.2.2 Name TWO conditions you have to comply with before such a permit will be issued. (2)

- a) fully completed documents
- b) proof of registration of principal contractor with UIF and WCC
- c) proof of proper design to include h&s specifications, cost thereof and contractor has necessary competencies

9.3 Your firm has appointed a construction company to build a new head office and has also appointed an agent to act as their representative for the construction project.

4(4)

9.3.1 What are the differences between the duties of the client and the agent? (1)
 duties imposed on client apply to agent

4(5)

9.3.2 Name TWO elements the safety management system audits must include. (2)

- i) inspections
- ii) surveys
- iii) monitoring
- iv) incident investigations
- v) complaints
- vi) audit debriefing to client's project management and principal contractor

9.4 7(9)

What is required before you may allow any visitors on a construction site? (1)
 all visitors undergo h&s induction of hazards on site and they must wear PPE

[10]

QUESTION 10 HBAR

10.1 Define the following terms as given in the Regulations for Hazardous Biological Agents (HBA), 2001.

10.1.1 Decontamination (1)

means to remove all inanimate objects by way of sweeping, cleaning, washing, ventilating or any other process aimed at removing the contaminant

10.1.2 Disinfect (1)

means to render non-viable virtually all recognised pathogenic micro-organisms, but not necessarily all microbial forms

10.2 3(3)

Annexure B to the HBA regulations contains a list of biological agents classified according to hazard and categories of containment. Where a biological agent has not been assigned a classification, you have to provisionally classify that agent.

What must you do when you provisionally classify a biological agent? (2)

assign that agent to one of the groups and if there is according to its level of risk of infection doubt as to which of two alternative groups would be most appropriate, the HBA shall be assigned to the higher of the two

10.3 12 (b)

You have to ensure that all control measures, equipment and facilities you have to provide in terms of these regulations are maintained in good working order.

10.3.1 What does the maintenance of the control measures comprise of? (1)

examinations and tests

10.3.2 Who must carry out this maintenance? (1)

by an approved HBA inspection authority or by a person whose ability to do the

measurements, analysis and tests is verified by such an approved HBA inspection authority
10.3.3 At what intervals must this maintenance be carried out? (1)
not exceeding 24 months

10.4 17

The Regulations require that you shall lay down written procedures for appropriate decontamination and disinfection when you dispose HBAs. It also requires you to implement written procedures to ensure handling of infectious waste without risk.
Name THREE other aspects you have to do when you dispose HBAs. (3)
c) ensure that all fixtures and equipment including vehicles, re-usable containers and covers are disinfected and decontaminated after use
d) HBA waste that can cause exposure is disposed of only on sites specifically designated such that it cannot cause a hazard
e) all employees involved in collection, transport and disposal are provided with PPE
f) Contract with disposal contractor to include requirement for compliance with provisions of these Regulations

[10]

TOTAL:

 [100]