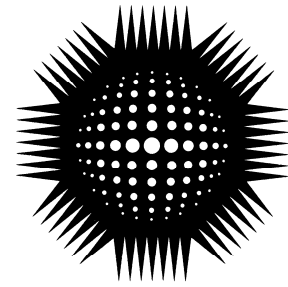


THE NATIONAL EXAMINATION BOARD IN
OCCUPATIONAL SAFETY AND HEALTH

NEBOSH NATIONAL DIPLOMA IN
OCCUPATIONAL HEALTH AND SAFETY



nebosh

Unit A: Managing health and safety

TUESDAY 24 JANUARY 2012

3 hours, 0930 to 1230

10 minutes reading time is allowed before the start of this examination. You may not write anything during this period.

Answer both Section A and Section B

SECTION A

This section contains six questions. Answer **ALL SIX** questions.

All questions carry equal marks.

The maximum marks for each question, or part of a question, are shown in brackets.

You are advised to spend about **15 minutes** on each question.

Start each answer on a new page.

- 1 An organisation is proposing to move from a health and safety management system based on the Health and Safety Executive's HSG65 model to one that aligns itself with BS OHSAS 18001.
- Outline** the possible advantages **AND** disadvantages of such a change. (10)
- 2 (a) **Outline** the strengths of using accident rates as a measure of health and safety performance. (2)
- (b) **Outline** the weaknesses of using accident rates as a measure of health and safety performance. (8)
- 3 **Outline** the types of information that should be included in written safe systems of work. *Details of any specific risk controls are not required.* (10)

- 4 **Describe** the possible strengths **AND** weaknesses of the *role* of the union-appointed safety representative in improving workplace health and safety standards and culture. (10)
- 5 A poor organisational safety culture is said to lead to higher levels of violation by employees.
- (a) **Give** the meaning of the term '*violation*' **AND outline** the classification of violation as '*routine*', '*situational*' or '*exceptional*'. (6)
- (b) **Outline** why a poor safety culture might lead to higher levels of violation by employees. (4)
- 6 **Explain** the meaning of the terms '*practicable*' **AND** '*reasonably practicable*' as they apply to health and safety legislation. Use case law to support your answer where applicable. (10)

SECTION B

This section contains five questions. Answer **THREE** questions only.

All questions carry equal marks.

The maximum marks for each question, or part of a question, are shown in brackets.

You are advised to spend about **30 minutes** on each question.

Start each answer on a new page.

7 (a) **Explain** the meaning of the terms:

- (i) accident incidence rate; (2)
- (ii) accident frequency rate; (2)
- (iii) accident severity rate. (2)

(b) The table below shows the number of lost-time accidents at two similar manufacturing units in recent years and the average number of person-hours worked for each year.

Year	Number of lost-time accidents at Unit A	Number of person-hours worked at Unit A	Number of lost-time accidents at Unit B	Number of person-hours worked at Unit B
2006	7	255,000	8	164,000
2007	6	223,000	9	199,000
2008	6	215,000	9	209,000
2009	5	193,000	10	244,000
2010	5	180,000	10	261,000

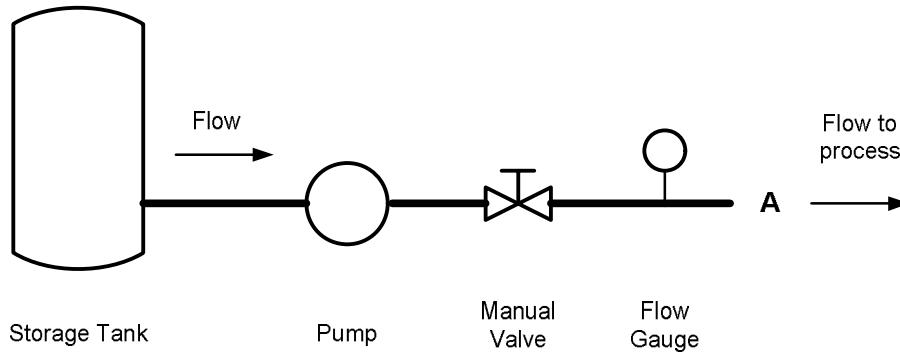
- (i) **Calculate and compare** the annual lost-time accident frequency rates for the two manufacturing units **AND identify** any trends. (7)
- (ii) A line graph showing the lost-time accident frequency rate calculated for each month is sent to the management of Manufacturing Unit A on a quarterly basis. The line graph is highly variable with many sharp peaks and troughs from month to month.

Explain why the graph is so variable **AND outline** how such a graph could be presented in a more useful way. (4)

(c) Another manufacturing unit ran a campaign to reduce the number of knife cut injuries. As a result of this campaign the lost-time accident frequency rate at the unit fell by 20%. However, the accident severity rate fell by only 10%.

Explain why the two indicators may not have fallen by the same proportion. (3)

- 8 The diagram below shows a section of process plant in which a raw material is pumped continuously to a process from a storage tank. The flow rate is controlled by an operator who adjusts the manual valve to achieve the desired flow as shown on the flow gauge. If the flow is too great a dangerous reaction may occur in the process. If there is insufficient flow the product produced in the process will be defective and will have to be discarded. Any contaminant in the raw material may produce a dangerous reaction.



Apply the methodology of a hazard and operability (HAZOP) study to the process at point A on the diagram **AND give** the results of the study in typical HAZOP format.

*You are not required to produce a complete study. Consider only the process parameter of 'flow' and apply no more than **three** guide words.*

(20)

- 9 (a) A machinery accident at work has resulted in a fatality.
- (i) **Identify** the authorities that might be involved in investigating the accident or in initiating and/or conducting criminal prosecutions **AND outline** the involvement of each authority in these circumstances. **(5)**
- (ii) Following an initial investigation into the fatal accident, an enforcing authority inspector wishes to make a further visit so that statements can be taken from witnesses and others, including the Managing Director. Prosecution under the Health and Safety at Work etc Act 1974 is being considered.
- The Managing Director, who was controlling work at the scene when the accident occurred, has refused permission for the inspector to make a further visit and to take statements.
- Outline** the specific powers of inspectors that are relevant to this issue **AND** the possible courses of action that the inspector may pursue. **(9)**
- (b) **Outline** the legal criteria that must be satisfied to obtain a conviction under the Corporate Manslaughter and Corporate Homicide Act 2007. **(6)**

- 10** A 13 year-old boy is riding on the back of a milk delivery van when he falls and is injured. The boy has been helping the milkman to deliver milk even though doing this was forbidden by the dairy that employs the milkman.
- (a) **Explain**, with reasons, which of the parties concerned may have civil liability at common law for the injury. Use case law to support your answer where appropriate. (5)
- (b) An action alleging negligence by the milkman is brought on behalf of the injured boy.
- Outline** possible defences against such an action **AND**, in **EACH** case, **relate** your answer to the scenario given. (6)
- (c) The negligence claim is to be managed in accordance with the relevant pre-action protocol.
- Identify FIVE** possible documents that the defendant may have to send to the claimant under this protocol. (5)
- (d) Following this accident the milkman was dismissed for gross misconduct for a serious breach of safety rules. The milkman considers this to be unfair and brings an action for unfair dismissal to an Employment Tribunal.
- (i) **Outline** the orders that the Employment Tribunal may make if they find in the milkman's favour. (3)
- (ii) **Identify** the body that would hear any appeal from the decision of the Employment Tribunal. (1)
- 11** As the Health and Safety Adviser to a large organisation, you have decided to develop and introduce an in-house auditing programme to assess the effectiveness of the organisation's health and safety management arrangements.
- Describe** the organisational and planning issues to be addressed in the development of the audit programme. *You do not need to consider the specific factors to be audited.* (20)