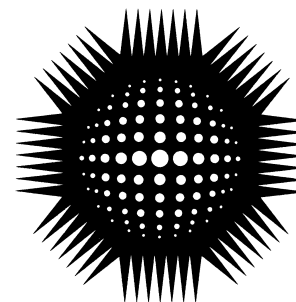


THE NATIONAL EXAMINATION BOARD IN
OCCUPATIONAL SAFETY AND HEALTH

NEBOSH NATIONAL DIPLOMA IN
OCCUPATIONAL HEALTH AND SAFETY



nebosh

Unit A: Managing health and safety

TUESDAY 15 JANUARY 2013
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** A warehouse employee whose normal work involves lifting and carrying loads sustained a back injury in an accident at work on a Friday morning.

The employee's doctor has advised him to rest over the weekend. The doctor has confirmed that the employee can return to work on Monday (ie 3 days after the accident), but that he must restrict himself to light duties for a further seven days.

- (a) **Outline** the statutory requirements for reporting this accident. (6)
- (b) **Identify** the maximum fines that courts could impose for a failure to report the injury **AND name** the courts in which such fines could be levied. (4)

- 2** An advertising campaign was used to promote improvement in safety standards within an organisation. During the period of the campaign the rate of reported accidents significantly increased and the campaign was considered to be a failure.

- (a) **Outline** reasons why the rate of reported accidents may have been a poor measure of the campaign's effectiveness. (2)
- (b) **Outline FOUR** proactive (active) monitoring techniques that might be used to assess the organisation's health and safety performance. (8)

- 3 A maintenance employee was asphyxiated while working within an emptied fuel storage tank. A subsequent investigation found that the employee had been operating without a permit-to-work, despite it being an organisational requirement for this type of task.
- (a) **Outline** why a permit-to-work would be considered necessary in these circumstances. (3)
- (b) **Outline** possible reasons why the permit-to-work procedure was not followed on this occasion. (7)
- 4 Regulation 3(1) of the Management of Health and Safety at Work Regulations 1999 states (in part) that:
- “Every employer shall make a suitable and sufficient assessment of –
(a) the risks to the health and safety of his employees to which they are exposed whilst they are at work”.*
- (a) **Outline** a range of factors that must be considered in order to produce a ‘suitable and sufficient’ risk assessment. (6)
- (b) **Outline** the actions that an enforcing authority inspector may take in the event that risk assessments are not suitable and sufficient. (4)
- 5 The senior management of an organisation needs to introduce a number of new, safer working procedures but has met with resistance from the workforce.
- Outline** the steps that managers could take to gain the support and commitment of staff when introducing the changes. (10)
- 6 Health and safety is only one aspect of organisational risk management.
- (a) **Identify THREE other** areas of risk that organisations may need to consider **AND give ONE** example of **EACH**. (3)
- (b) **Outline** how an organisation can raise the profile of health and safety so that it is considered with equal importance to other areas of risk. (7)

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 young female employee of company A has broken her back in a fall down some stairs whilst at work. At the time of the incident she had been hurrying to meet a friend for lunch.

An investigation has revealed that the fall was caused when the injured employee slipped on a fluid that had leaked from a floor cleaning machine, which had been left at the top of the flight of stairs. The cleaning machine was owned and operated by company B, a contract cleaning company. Senior managers from company A had been aware for some time that cleaning machines were left at the top of the stairs but had made no effort to deal with this situation.

- (a) **Identify** the likely defendants to a claim for damages. (2)
- (b) **Outline** the two main types of damages that the injured employee may claim **AND give** examples of what may be claimed under **EACH** type. (4)
- (c) The injured party intends to bring a claim based on the tort of breach of statutory duty.
Outline what the injured party will need to prove in order for her claim to succeed. (7)
- (d) **Explain** the possible breaches of the Health and Safety at Work etc Act 1974 that are relevant to this situation. (7)

- 8** A large warehousing and distribution facility uses contractors for many of its maintenance activities. Contractors make up approximately 5% of the total workforce but an analysis of the accident statistics for the previous two years has shown that accidents to contractor personnel, or arising from work undertaken by contractors, account for 20% of the lost-time accidents on site.

- (a) **Outline** possible reasons for the disproportionate number of accidents involving contract work, assuming that the accident statistics are correctly recorded. (6)
- (b) **Describe** procedures for:
 - (i) selection of contractors; (4)
 - (ii) control of contractors. (10)

- 9 In relation to European Union (EU) law:
- (a) **distinguish** between EU directives and EU regulations; (4)
 - (b) **outline** the 'Co-decision' (or 'Ordinary') procedure for making EU legal instruments concerning health and safety matters; (10)
 - (c) **outline** the key functions of the European Court of Justice. (6)

- 10 A 19-year-old employee in his first week with a new employer accidentally dropped an expensive piece of equipment into a deep excavation. Nobody else saw this incident and so, in order to avoid being blamed, he chose to climb down a ladder to retrieve the item before his supervisor returned from his lunch break. While using the ladder to climb back out of the excavation, the employee slipped, fell and broke his leg.

The employee had received a full induction on his first day but had not yet been given training in ladder safety. When interviewed following his accident, he stated that he was afraid of being disciplined, which was his previous employer's normal reaction in similar situations.

- (a) **Outline** the principles of the Hale and Hale model. (6)
 - (b) Using the Hale and Hale model, **outline** the factors that could have led to the accident as described above. (14)
- 11 (a) **Outline** the principles and methodology of Event Tree Analysis. (8)
- (b) A low pressure storage vessel is connected via pipework to a manufacturing plant that could, in the event of malfunction, generate a pressure great enough to rupture the vessel. To prevent this, a pressure detector is installed in the low pressure storage vessel. If pressure starts to rise above an acceptable level the detector activates a valve control system. This in turn closes the inlet valve to the vessel isolating it from excessive pressure. It has been estimated that pressure great enough to rupture the low pressure storage vessel would be generated once every four years on average (ie 0.25 failures per year).

Figures for the probability of successful operation of the system components are given in the table below:

Component	Probability of Successful Operation
Pressure detector	0.95
Valve control system	0.99
Inlet valve	0.8

- Construct** an event tree for the protective system described above **AND** use it to **calculate** the overall probability of rupture of the low pressure storage vessel caused by the failure of the protective system. (12)