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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2011/2012**

COURSE NAME : OCCUPATIONAL SAFETY AND HEALTH
COURSE CODE : BFC 4111
PROGRAMME : 4 BFF
EXAMINATION DATE : JANUARY 2012
DURATION : 1 HOUR
INSTRUCTION : ANSWER **TWO (2)** QUESTIONS ONLY

THIS PAPER CONSISTS OF SIX (6) PAGES

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Q1 HIRARC is a Hazard identification, risk assessment and risk control.

- (a) Define what is the meant by hazard, risk and danger. (9 marks)
- (b) Discuss the various methods of identifying hazards at workplace? (5 marks)
- (c) Explain the hierarchy of the control measures. (6 marks)
- (d) List **five (5)** general groups of hazard. (5 marks)

Q2 As a Safety and Health Officer in your workplace, you are responsible for various aspects of safe work environment. You have identified several important issues which must be address effectively.

- (a) What is the meant by 'near miss'?. (2 marks)
- (b) What are the differences between 'hazard' and 'risk' ?. (6 marks)
- (c) Explain **three (3)** basic steps that should be taken to ensure a safe & healthy workplace. Provide examples to strengthen your answer. (10 marks)
- (d) List **seven (7)** objectives and rationale of Occupational Safety and Health Act 1994. (7 marks)

Q3 **Figure Q3** shows the accident that happen to the sub-contractor and worker. To ensure work activities being carried out safely and healthily, potential hazards need to be identified, assessed and controlled.

Based on the statements given, carry out or prepare HIRARC to ensure the hazard is as low as reasonable and practicable (ALARP).

(25 marks)

Q4 Based on **Figure Q4**, list down and evaluate the causes of the potential hazard and the administrative control that should be taken to solve the problems.

(25 marks)

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Sub-contractor, worker found dead in manhole

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SHAH ALAM, Sun. — A sub-contractor and his worker were found dead in a five-metre deep manhole along Persiaran Kemajuan in Section 16 here today.

Lim Chin Chuan, 51, from Taman Camp, Port Klang and his worker identified only as Masturi, 24, from Jawa Timur, were believed to have died of toxic gas inhalation.

Firemen who went to the scene after receiving a call at 10.58am found Lim's body on top of his assistant in the manhole. They also found a ladder jutting out of the manhole.

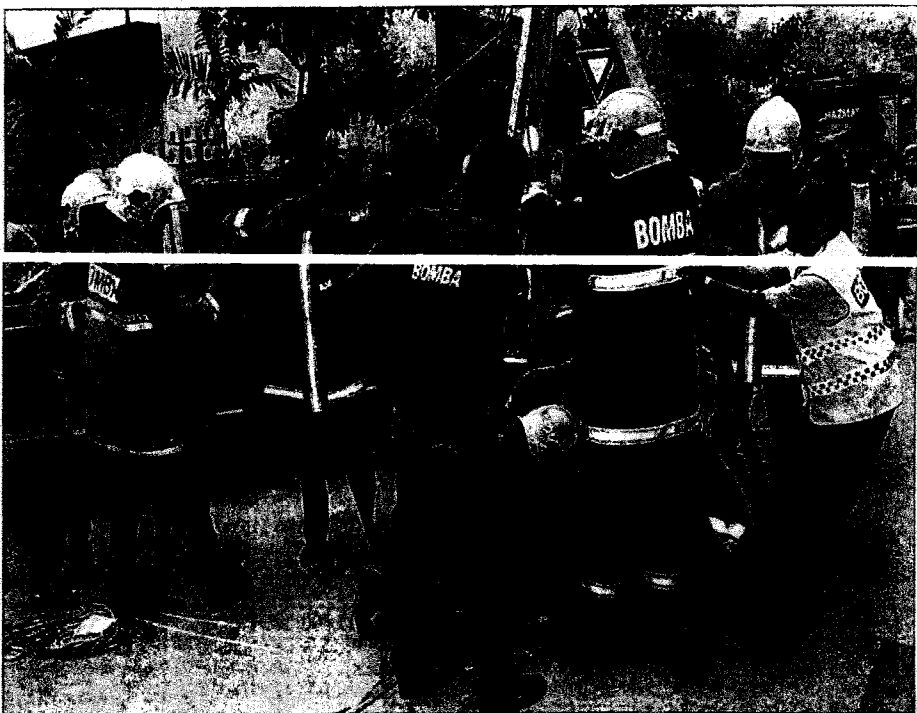
Section 15 Fire and Rescue Department officer Borhan Madon said the two might have inhaled toxic gas on Friday while carrying out maintenance work.

The 13-member team pulled out Lim's body from the manhole about 1.25pm and Masturi's body was retrieved 20 minutes later.

The position of the bodies indicated that one of the two could have sought the help of the other after inhaling toxic gas in the manhole.

A car believed to have been driven by the sub-contractor was parked nearby.

The scene attracted a large crowd, causing a traffic jam in the industrial



SUSPECTED TOXIC GAS: Firemen pulling out one of the bodies yesterday.

area.

According to one of Lim's relatives, Lim normally left the house about 7am and returned home about 6pm.

However, relatives were unable to trace Lim's whereabouts until this morning. They lodged a report at the Pandamaran police station about

10am.

The bodies were sent to University Malaya Medical Centre for post-mortem.

Figure Q3

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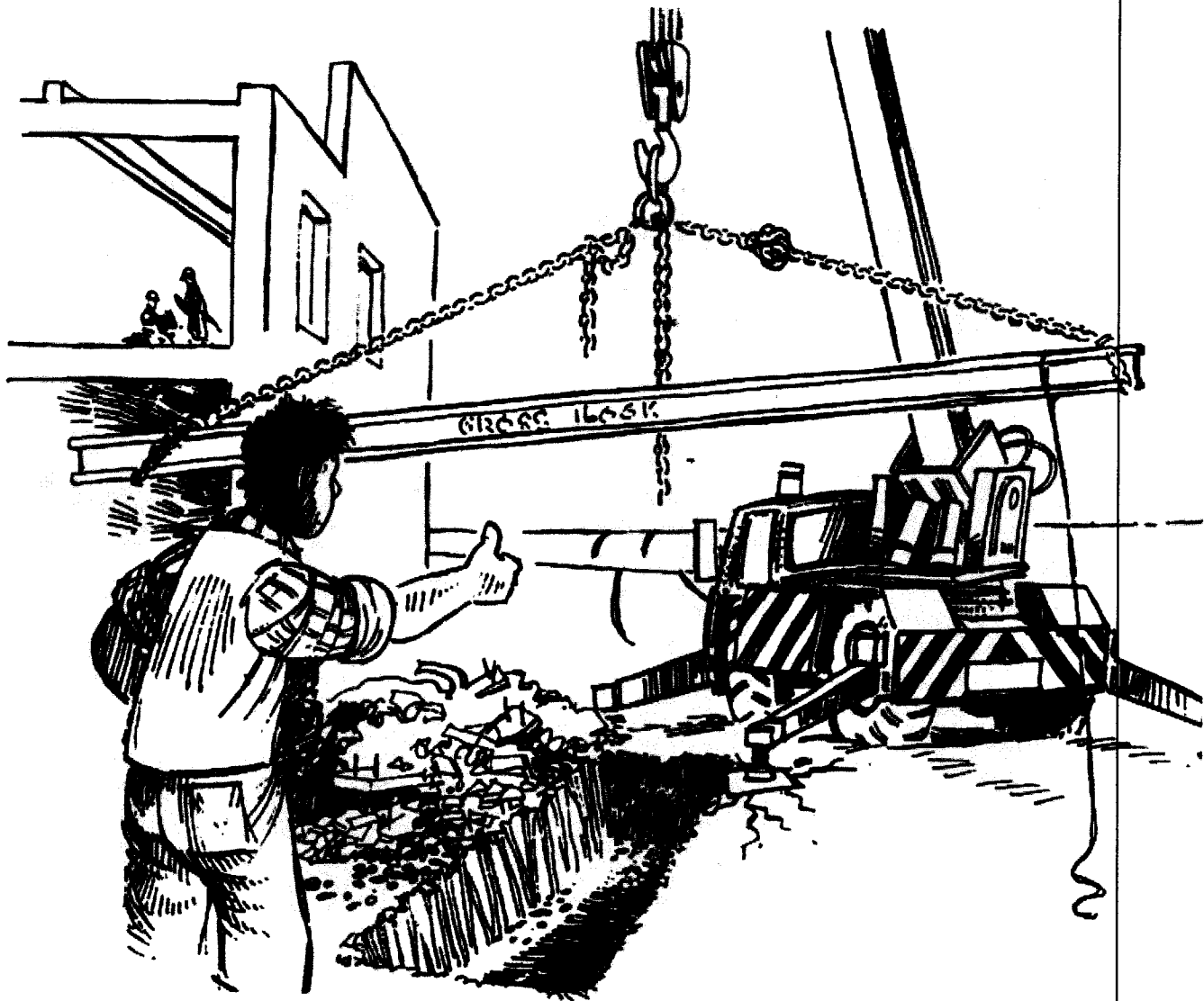


FIGURE Q4

S1 HIRARC adalah mengenalpasti bahaya, menilai dan mengawal risiko.

(a) Terangkan dengan jelas maksud hazard, risiko dan bahaya. (9 markah)

(b) Bincangkan kaedah dalam mengenalpasti hazard di tempat kerja. (5 markah)

(c) Terangkan struktur hirarki dalam mengukur kawalan risiko (6 markah)

(d) Senaraikan **lima (5)** jenis kumpulan hazard (5 markah)

S2 Sebagai seorang pegawai keselamatan dan kesihatan pekerjaan di tempat kerja, anda bertanggungjawab terhadap beberapa aspek persekitaran keselamatan di tempat kerja. Anda perlu mengenalpasti beberapa isu yang perlu diambil tindakan secara berkesan.

(a) Apakah yang dimaksudkan dengan "kejadian nyaris" (2 markah)

(b) Nyatakan perbezaan antara "hazard" dan "risiko" (6 markah)

(c) Terangkan **tiga (3)** perkara asas yang perlu diambil bagi memastikan keselamatan dan kesihatan ditempat kerja terjaga. (10 markah)

(d) Senaraikan **tujuh (7)** objektif dan rationalnya Akta Keselamatan dan Kesihatan Pekerjaan 1994. (7 markah)

S3 **Rajah S3** menunjukkan kemalangan yang berlaku terhadap sub-kontraktor serta pekerjanya. Bagi memastikan aktiviti-aktiviti pembinaan dapat dijalankan secara selamat dan sihat, segala jenis hazard perlu dikenalpasti, di nilai serta di kawal. Berdasarkan kepada **rajah S3**, bangunkan HIRARC bagi memastikan bahaya kemalangan dapat dikurangkan secara praktikal (ALARP). (25 markah)

S4 Berdasarkan kepada **rajah S4**, senaraikan dan buat penilain risiko terhadap hazard yang berpotensi serta kawalan pentadbiran yang boleh dibuat dalam mengurangkan risiko kemalangan. (25 markah)