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Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2017/2018**

COURSE NAME : SAFETY IN ENGINEERING

COURSE CODE : BNA 31103

PROGRAMME CODE : BNA

EXAMINATION DATE : JUNE/JULY 2018

DURATION : 3 HOURS

INSTRUCTION : ANSWERS FOUR (4) QUESTIONS ONLY

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THIS QUESTION PAPER CONSISTS OF FIVE (5) PAGES

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- Q1** (a) Explain the principles of health and safety in the workplace. (10 marks)
- (b) Summarize briefly the purpose of OSHA. (5 Marks)
- (c) OSHA not only imposes duties on employers but also gives rights on employees. List **THREE (3)** responsibilities of employer according to OSHA. (6 Marks)
- (d) Discuss what employees can do to show that they are fulfilling their duty of care obligation in the workplace. (4 marks)
- Q2** (a) Define term: (5 marks)
- i. Hazards
 - ii. Hazards Identification
 - iii. Personal Protective Equipment
 - iv. Risk Assessment
 - v. Risk Control
- (b) When engineering, work practice and administrative controls are not feasible or do not provide sufficient protection, employers must provide PPE to their employees and ensure its use. Categorize **FIVE (5)** type of PPE in protecting the workers. (10 marks)
- (c) Explain the purpose of HIRARC. (5 Marks)
- (d) UTHM is committed to providing a healthy and safe working and learning environment sound practices in the conduct of university activities. Design a checklist for the prevention of accidents in laboratories. (5 Marks)

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- Q3**
- (a) UTHM is committed to providing a safe and healthful environment for all persons associated with the University, including faculty, staff, students and visitors. List **THREE (3)** specific duties and responsibilities of laboratory technicians or representative for laboratory safety.
(6 marks)
 - (b) Name **THREE (3)** type of waste in UTHM laboratories.
(6 Marks)
 - (c) Explain **TWO (2)** the major routes of exposure to chemical substances during laboratory work, and safe handling practices that can minimize the risk while working with chemical substances.
(8 marks)
 - (d) Demonstrate the first aid procedure when the eye has received chemical irritation while working in the laboratory.
(5 marks)

Q4

- (a) **Figure Q4 (a)** shows a workplace where a variety of hazards can be found. Describe the job in this workplace.
(5 marks)
- (b) Discuss **TWO (2)** hazards that exist in this workplace.
(8 marks)
- (c) As health and safety representative your role is to work proactively (this means taking action before hazards become a problem) to prevent workers from being exposed to occupational hazards. Identify and describe common rules for good work practices in order to ensure a safe and healthy workplace.
(12 marks)

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Q5

- (a) **Figure Q5 (a)** shows a workplace where a variety of hazards can be found. Describe the job in this workplace.

(5 Marks)

- (b) Warnings do not prevent exposure to a hazard, but they do provide a visual or audible indicator to warn people of potential danger. Give **FOUR (4)** examples of warnings that can explain the hazards at this workplace.

(8 marks)

- (c) Give **THREE (3)** risk and injuries that might occur at this workplace and discuss the safety precautions that should be taken to avoid these incidents.

(12 Marks)

- END OF QUESTIONS -

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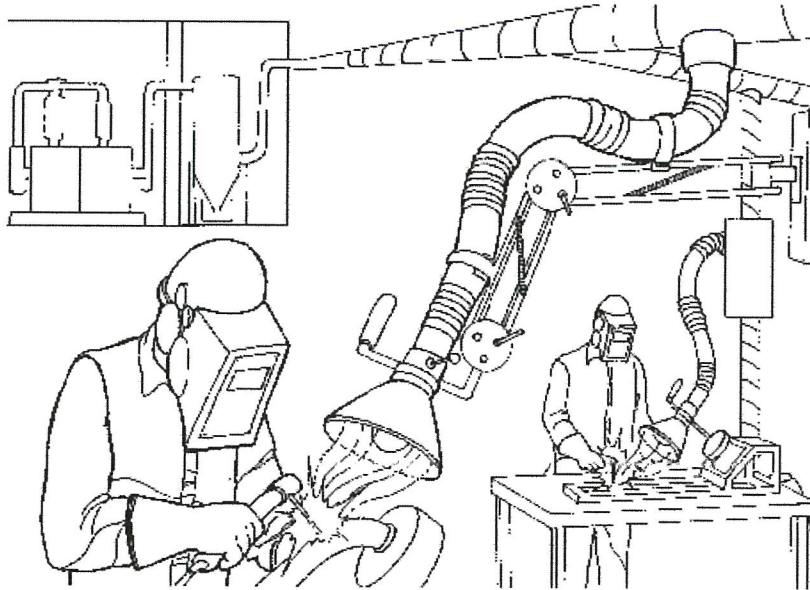


Figure Q4(a)

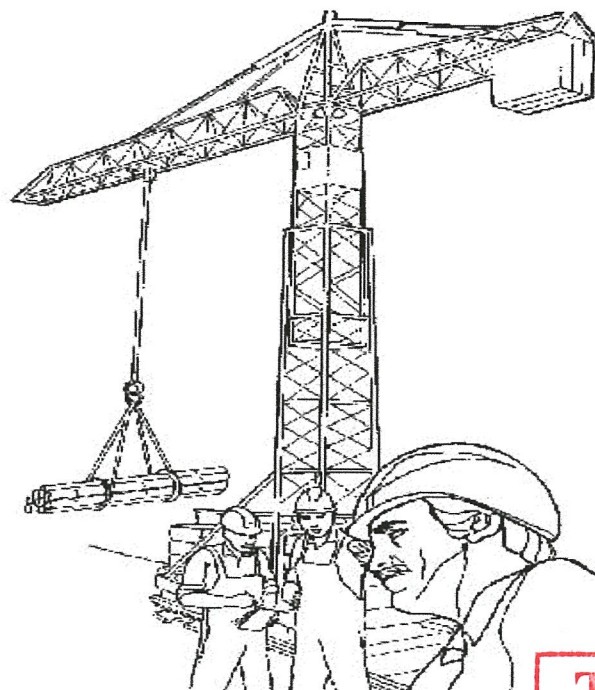


Figure Q5(a)

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