

CONFIDENTIAL



UTHM
Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN
MALAYSIA**

**FINAL EXAMINATION
(ONLINE)
SEMESTER I
SESSION 2020/2021**

COURSE NAME : OCCUPATIONAL SAFETY AND HEALTH
COURSE CODE : BDA 31302
PROGRAMME : 3 BDD
EXAMINATION DATE : JANUARY/FEBRUARY 2021
DURATION : 2 HOURS
INSTRUCTION : ANSWER ONLY **TWO (2)**
QUESTIONS FROM SECTION A
AND **ALL** QUESTIONS FROM
SECTION B

THIS QUESTION PAPER CONSISTS OF FIVE (5) PAGES

TERBUKA

CONFIDENTIAL

SECTION A

- Q1** (a) An accident has happened in a factory involving a lathe machine. The operator of the machine was seriously injured by the broken tool that hit his face. The accident induced indirect costs to the company which include costs of replacement for injured workers and costs arising from loss of commitment and motivation of workers involved in the accidents. Describe **THREE (3)** example of indirect costs that can be associated with the accident.
(6 marks)
- (b) One of the objectives of Occupational Safety and Health Act (OSHA) 1994 Act 514 is to protect person (other than person at work) at a place of work against hazard. Examine this objective and provide detail explanations what does it means. Support your answer with **THREE (3)** examples of person other than person at work and provide clear explanations.
(6 marks)
- (c) Organizations of all kinds are increasingly concerned with achieving and demonstrating sound occupational health and safety (OH&S) performance by controlling their OH&S risks, consistent with their OH&S policy and objectives. The organizations have also undertaken OH&S “reviews” or “audits” to assess their OH&S performance. Evaluate this statement and write your interpretation how all these activities can benefit the company business performance.
(6 marks)
- (d) One of the main function of Environmental Quality Act 1974 is to promote industrial efficiency and development, benefiting the health and safety of the public. Examine this function and provide detail explanations what does it means. Support your answer with **FOUR (4)** examples of benefits to the public.
(7 marks)
- Q2** (a) Hazard and risk are two commonly used terms in risk management at workplace. With reference to **Figure Q2(a)** and **Figure Q2(b)**, differentiate between the two terms and give accurate clarification.
(8 marks)
- (b) At the workplace, the occurrence of the accident can be minimized if the company has the proper risk management.
- i) Write using your own word what is workplace risk management?
(4 marks)
- ii) Examine why it is important to assess the risk?
(4 marks)

- (c) HIRARC is one of the systematic processes commonly used in risk management at work place. Describe the meaning of HIRARC and explain the process flow of the steps involved in HIRARC.

(9 marks)

- Q3** (a) **Figure Q3(a)** shows a welder working in a machine workshop. Based on this figure, examine the potential hazards that this welder will be facing?

(6 marks)

- (b) Two safety and health professionals are debating an issue over lunch. "Hard hats don't really do any good because employees won't wear them. It's like dieting. The best diet in the world won't work if you don't follow it." "I don't agree," said the second safety professional. "Hard hats have prevented thousands of head injuries. If employees don't wear them, it's because managers don't enforce their own rules." Join this debate. Argue and support your opinion?

(6 marks)

- (c) Short circuits are one of many potential electrical hazards that can cause electrical shock. Differentiate and elaborate **FOUR (4)** major causes of electrical shock.

(7 marks)

- (d) With reference to **Figure Q3(d)**, two scenarios depict the possibility of electrical hazards. Write what the issues are and recommend ways of prevention.

(6 marks)

SECTION B

- Q4** (a) Asbestos is a generic name for magnesium silica that is formulated through the natural process. Human can expose to asbestos through inhalation and ingestion. Major occupations at risk due to asbestos process are factory workers for products using asbestos and workers that are exposed to the use of asbestos materials such as shipbuilding, oil rigs etc. Due to asbestos hazards, write in details how does asbestos cause lung cancer in term of exposure, duration and profession.

(9 marks)

TERBUKA

- (b) Two types of vibration which are whole body vibration (WBV) and hand arm vibration (HAV). The WBV is usually transferred to the body via the buttocks or the feet while HAV is transferred through the hand via the use of vibrating hand tools. Evaluate in details how does the anti-vibration tools gloves can control exposure to vibration and justify by point how does the work practices can reduce the risk of hand-arm vibration syndrome (HAVS).
(9 marks)
- (c) With COVID-19 and the lockdown people have been forced to stay at home and work from home as much as possible if they are non-essential. This could lead to poor ergonomics and lack of movement leading to an increase in low back pain. Based on 4 tips to prevent back pain while working from home, recommend in details and support your answer with example on how to use of a low back support, correction of desk set up, move once every hour and exercise in order to prevent these low back pain.
(7 marks)
- Q5** (a) On June 5, 2007, there was a Vapor Cloud Explosion (VCE) at ABC Company during unloading of liquified natural gas, the gas leaked from the truck and formed a vapor cloud, then the vapor cloud met with the electrical sparks in the plant laboratory, and an explosion occurred. This incident caused significant casualties and property loss. Construct a fishbone diagram and evaluate the main causes of the explosion accident.
(10 marks)
- (b) An employee is working on a ladder and the ladder seems to collapse. The employee falls off the ladder and breaks arm. The investigation reveals that employee had worked seven 12-hour shifts in a row, accident happened at end of shift, employee was standing on the top step of the ladder (an unsafe action), the employee was approximately 10 feet above floor level and no fall arrest or restraint system was used. In addition, a ladder inspection policy is in place, but there is no evidence that the ladder has ever been inspected. Furthermore, investigation reveals the ladder was damaged and did not provide a stable working platform in any environment. As a safety and health officer (SHO) at your organization, examine the obtained information and differentiate the factors and possible causes affecting this incident includes root causes and other factors related it.
(15 marks)

– END OF QUESTION

TERBUKA

FINAL EXAMINATION

SEMESTER / SESSION : SEM I / 2020/2021

PROGRAMME CODE: BDD

COURSE NAME: OCCUPATIONAL SAFETY AND HEALTH

COURSE CODE : BDA31302

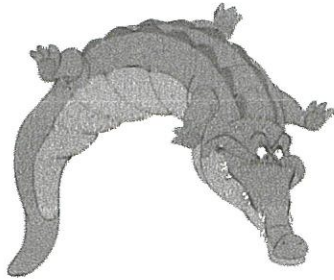


Figure Q2(a)



Figure Q2(b)

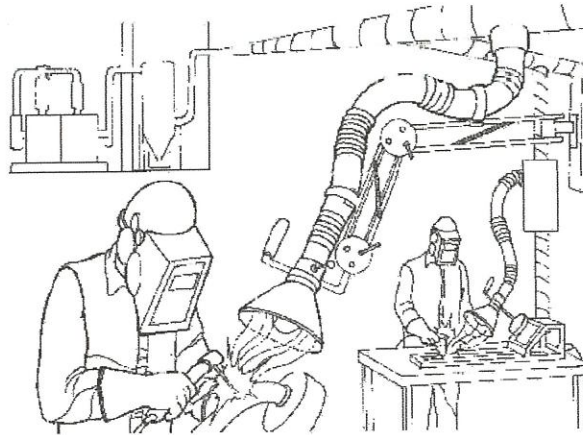


Figure Q3(a)

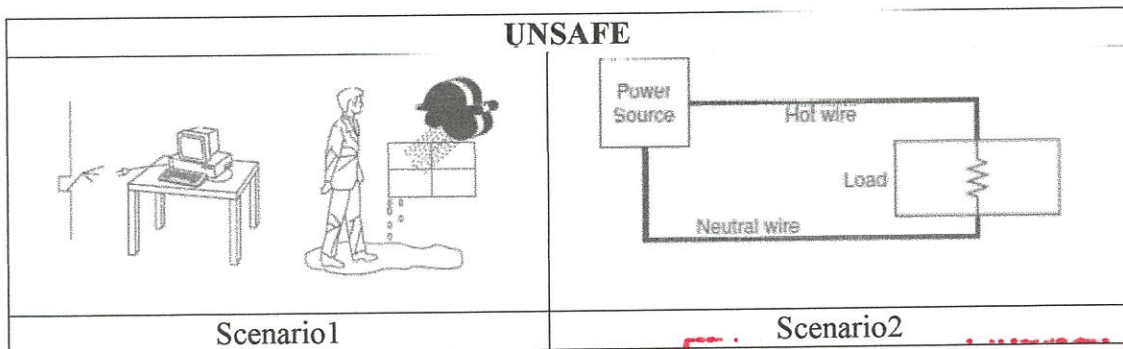


Figure Q3(d)

TERBUKA