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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2020/2021**

COURSE NAME : OCCUPATIONAL SAFETY AND HEALTH
COURSE CODE : BDU 21002
PROGRAMME CODE : BDC/BDM
EXAMINATION DATE : JULY 2021
DURATION : 2 HOURS
INSTRUCTION : SECTION A: ANSWER ALL QUESTIONS
SECTION B: ANSWER ONE QUESTION ONLY

THIS QUESTION PAPER CONSISTS OF FIVE (5) PAGES

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SECTION A: ANSWER ALL QUESTIONS.

Q1 (a) Describe and provide examples of two general duties of employers under OSHA 1994 Act 514.

(5 marks)

(b) Lets Fly Berhad is an established aerospace manufacturing company that manufacture aircraft wing. The company currently employed 100 workers including administration, engineering and general staff. Last month, AIRBOSSKUR awarded the company to produce 5 pair of wings for their aircraft and the total lump sum project worth RM 24 million for 2 years. You are one of the new recruitment and appointed as junior safety engineer cum safety and health officer at this company. By legislation, you are needed to prepare the compliance document based on the OHSAS 18001:2007. You also represent as secretary during the safety and health meeting with the client.

(i) Based on the company profile, construct a safety and health (SH) committee and illustrate the FOUR designated posts as well as propose appointment criteria for the posts.

(10 marks)

(ii) Analyze the designated clauses in OSHA Act 514 for developing OHSAS 18001:2007 at the workplace.

(10 marks)

Q2 Hazard identification, risk assessment and risk control are the main factors in ensuring safe workplace.

(a) Differentiate the term 'hazard', 'risk' and 'danger' by giving ONE example each.

(6 marks)

(b) When conducting Major Hazards Risk Assessment (MHRA), several risk analysis tools and techniques are needed. Construct appropriate diagram to explain the Fault / Logic Tree Analysis (FTA/LTA) techniques.

(9 marks)

(c) Define these terms:

(i) Safety

(ii) Health

(iii) Hazard

(iv) Risk

(v) System

(10 marks)

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- Q3** (a) Evaluate the differences in term of objectives, parts, scope and sections covered between these acts:
- (i) Occupational Safety and Health Act 1994 (OSHA, 1994) – Act 514
 - (ii) Factories and Machinery Act 1967 (FMA, 1967) – Act 139
 - (iii) Environmental Quality Act 1974 (EQA 1974) – Act 127
- (15 marks)
- (b) Hazard is a source or a situation with a potential for harm in term of human injury or ill health, damage to property, damage to the environment or a combination of these. Identify FIVE hazards based on the **Figure Q3**.
- (10 Marks)

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SECTION B: ANSWER ONE QUESTION ONLY.

Q4 A parapet wall slab from the ongoing Sungai Besi-Ulu Klang Elevated Expressway (SUKE) construction fell and hit a car on Sept 20, 2020. The one-sq metre concrete slab from a construction site of SUKE fell on a Proton Saga BLM driven by a woman at the Middle Ring Road 2. The 25-year-old victim was however rescued by members of the public with injuries on her left arm before being sent to Hospital Canselor Tuanku Muhriz (HCTM) for treatment

- (a) Suggest five appropriate work procedures before the construction begin; to prevent such accident from occurring.

(10 marks)

- (b) Two of the workers at the construction place died after falling from a height of 36.6 metres, while maintaining the track. Analyse FIVE possible causes of accidents with reference to OSHA Act 514 by stating the Part and Section referred to.

(15 marks)

Q5 An Airboss A320 nearly collides with a Boingg 747 as it is taking off. The A320 passed directly overhead of the 747, with an altitude of only 200 feet (67 meters). Most passengers on the 747 witnessed the near collision. The incident occurred at night. The Airbus was cleared for takeoff, but the 747 had been in breach of its taxi clearance and had moved on to the runway. The 747 flight crew did not hear the Airbus being given takeoff clearance. The 747 acknowledged the hold short clearance but did not clearly see the hold short line and had a hard time seeing because of glaring runway lights. Also, the hold short line was not shown on the airport diagram. Moreover, the ASDE-X warning was noticed too late to stop the 747 from breaching. In the ensuing months, the situation resulted in lost revenue, lost stock value, bad press, and fines for the 747-airline company. Based on the scenarios given,

- (a) Formulate a step by step analysis using Bow Tie techniques.

(10 marks)

- (b) Illustrate a bowtie analysis from the perspective of the 747 airline company.

(15 marks)

- END OF QUESTION -

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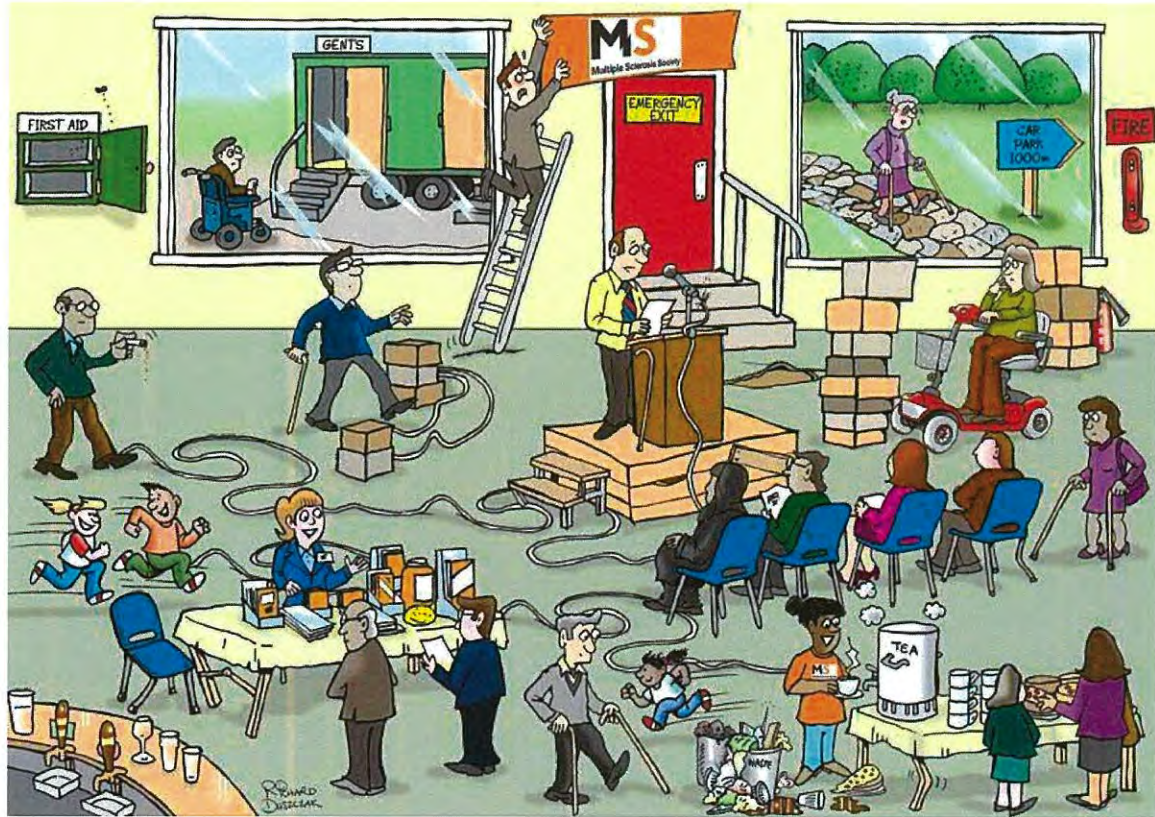


Figure Q3

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