



**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

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

**COURSE NAME** : OCCUPATIONAL SAFETY AND HEALTH  
**COURSE CODE** : BDX 20902  
**PROGRAMME** : BDX  
**EXAMINATION DATE** : JANUARY/FEBRUARY 2021  
**DURATION** : 2 HOURS  
**INSTRUCTION** : ANSWER **FOUR (4)** FROM **FIVE (5)** QUESTIONS ONLY.

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

- Q1** (a) Describe **TWO (2)** important organizations in Malaysia focusing on safety and health. Explain their responsibilities towards improving the safety of working environment in Malaysia. (5 marks)
- (b) As a young engineer working in a multinational aircraft manufacturing company, you are very active participating in meeting where safety issues are discussed. In one of the meeting, the safety officer explained that “the duty of employers is not only to formulate written statement of safety policy but covers many other things related to safety and health management”. Support the safety officer statement by writing **FIVE (5)** other important general duties of employers and self-employed persons stated in OSIA 1994. (10 marks)
- (c) The Occupational Health and Safety Management System (OHSMS) is governed using a concept of Plan-Do-Check-Act (PDCA) and continual improvement. The elements of the OHSMS are action for improvement, planning & implementing, policy, organizing, and evaluation.
- (i) Illustrate a suitable flow diagram showing the correct sequence of the OHSMS process. (3 marks)
- (ii) Support the diagram by providing clear description what each of the element is and distinguish its functions toward the effectiveness of the OHSMS. (7 marks)
- Q2** (a) A supervisor in a factory has a disagreement with his safety and health manager. He loudly said “The HIRARC programs and activities introduced by the company is useless and waste of time. It can never improve the safety and health in the company because it is only theoretical and cannot be practically implemented.” As an engineer in the company, you are expected to provide your opinion on this matter. Demonstrate your argument by thoroughly discussing the meaning and purposes of HIRARC. (10 marks)

- (b) “The employer can use any hazardous occurrence investigation reports as a method for hazard identification methodology. However, this is **not the only** technique to identify hazards in workplace.” Based on your engineering knowledge, interpret the above statement by suggesting **FIVE (5)** other different techniques that can be used for hazards identification. (5 marks)
- (c) There are six elements in hierarchy of hazards control which are Administrative Controls, Engineering Controls, Elimination, Personal Protective Equipment, Substitution, and Isolation. Using a correct process sequence or numbering, compare all the above elements by explaining and giving example for each of them. (10 marks)
- Q3** (a) Write **THREE (3)** specific and clear example describing causal for electrical shock. (3 marks)
- (b) Write **THREE (3)** specific and clear example describing causal factors of getting hit by vehicles in construction industry. (3 marks)
- (c) Write and thoroughly explain **FOUR (4)** most important factors that are normally considered in safe electrical usage. (12 marks)
- (d) There are many types of accidents commonly happened at mechanical worksite and among them are caught between objects and fallen objects from elevated area. Identify a typical mechanical worksite and propose **SEVEN (7)** applicable methods for hazards preventive and control involving mechanical work. (7 marks)
- Q4** (a) Occupational health disciplines comprises of occupational medicine, industrial hygiene, occupational toxicology, ergonomics, epidemiology and industrial psychology. In practice, the prevention approaches in occupational health disciplines are separated into three sections known as Primary Prevention, Secondary Prevention and Tertiary Prevention. Write these **THREE (3)** prevention approaches. Provide activity examples for each approach to support your comparison. (9 marks)

- (b) The objective of observation and inspection (O&I) is to identify health hazards at the workplace and ensure that occupational safety and health procedures are implemented. Choose **THREE (3)** workplace observation approaches to identify health hazards from both planned and unplanned activities

(9 marks)

- (c) Due to ergonomics hazard induce to human incapacity, job ergonomic analysis should be performed. Demonstrate **SEVEN (7)** important steps necessary to perform the analysis.

(7 marks)

- Q5** (a) Management at all levels in the organization or in the workplace should maintain a safety culture and safe work practices. All incidents and injuries can be avoided if appropriate care is taken by both the worker and the employers. Classify **FOUR (4)** factors or root causes of incident due to poor management in the workplace.

(8 marks)

- (b) An incident investigation is a management tool by which work-related injuries, ill health, diseases and incidents are systematically studied so that their root causes and contributing factors can be identified. Write the parties responsible when accidents happen and briefly discuss their roles, duties or equipments used.

(12 marks)

- (c) A team for the investigations depends on severity of the incident. Describe the internal investigation team-members and their responsibilities.

(5 marks)

– END OF QUESTION –