UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2014/2015

COURSE NAME	:	OCCUPATIONAL SAFETY AND HEALTH
COURSE CODE	:	BFC 43502
PROGRAMME	:	4 BFF
EXAMINATION DATE	:	DECEMBER 2014/JANUARY 2015
DURATION	:	2 HOURS
INSTRUCTION	:	ANSWER **ALL** QUESTIONS

THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

Q1 (a) Management plays an important role in implementing safety measures on construction site. By using suitable examples, discuss the importance of Health and Safety Management toward the followings:

(i) Time

(2 marks)

(ii) Cost

(2 marks)

(iii) Quality

(2 marks)

(b) Section 24 of Occupational Safety and Health Act (OSHA) 1994 underlines the 'general duties of employees at work'. As a worker of a contractor of an on-going construction project, describe **three (3)** measures that you can do to meet the requirement.

(6 marks)

(c) Being a contractor for an upcoming RM 200 million residential project, you understand that you can play a major role to ensure the safety and health of workers during construction stage, and further prevent the accident form happening. The number of workers employed by you to execute the construction works will be more than 40 workers. Compose brief site safety and health management procedures or measures that you can do prior to commencement of construction and during construction stage so that the safety and health of workers are ensured.

(13 marks)

Q2 (a) Ergonomic hazards can cause painful and disabling injuries to joints and muscles. List **three (3)** factors that could cause ergonomic hazards and give example of the construction activity for each factor.

(6 marks)

(b) Vehicles and excavation are among the sources of potential safety hazards on construction site. List **two (2)** common hazards respectively for vehicles and excavation.

(4 marks)

(c) Given the scenarios below, identify the potential hazards involved and the consequences risks for each scenario. Discuss the control measures that can be taken to avoid the hazards or minimize the risks.

(i) The workers are doing regular maintenance on the sloping roof of a 3-storey building. There is no edge protection installed along the roof perimeter.

(5 marks)

(ii) During the on-site installation of precast wall panels, the panels are lifted from the site storage area to the required position by use of a mobile crane. This panel is being lifted up to the 3rd floor. Lifting equipment condition is determined suitable for use (by designer), but not assessed by a competent person. The exclusion zone for non-involved workers is not barricaded with warning signs and barriers, but is identified and known to workers.

(5 marks)

(iii) The workers are doing site clearing to remove and dispose all bushes, trees, fences and loose boulders before construction phase starts. The site contains birds dropping as well as dangerous animals and poisonous plants.

(5 marks)

Q3 In the area of Occupational Safety and Health (OSH), risk management can be defined as a procedure to control the level of risk of injury of ill-health and death, and to mitigate the effects of risk. HIRARC applies the concept of risk management that provides the evaluation of the risks involved in the workplace and the recommended control measures to avoid accident.

(a) Define 'risk'.

(2 marks)

(b) There are four basic components of risk management, which are hazard identification, risk assessment, risk control and review. Explain briefly **four (4)** factors to be considered in implementing risk control.

(8 marks)

(c) Hierarchy of hazard control can be classified into three categories namely most effective, fairly effective and least effective. Briefly explain these three categories of hazard control.

(3 marks)

(c) Figure **Q2** shows a scenario that happened on a site where the construction works took place. To ensure work activities being carried out safely and healthily, potential hazards need to be identified, assessed and controlled.

Analyze the photo given, prepare and produce HIRARC to ensure the hazard is ALARP.

(12 marks)

Q4 Question (a), (b) and (c) refer to the article below.

Worker falls to his death at Plaza Damas construction site

KUALA LUMPUR: A worker fell to his death at the construction site of Plaza Damas in Sri Hartamas here, barely a year after corporate consultant Dr Liew Boon-Horng died when a cement mould smashed onto his car at the same place.

The 34-year-old Indonesian, identified only as Asmali, was found dead yesterday on the seventh floor of a condominium-cum-office block under construction.

He was seen working on the 23rd floor before he fell to his death about noon, when most of the workers were on their lunch break.

Police have ruled out foul play for now.

Federal Territory Department of Occupational Safety and Health director Omar Mat Piah said the department had imposed a stop-work order on the site.

He said details of Asmali's fall were being investigated.

National Institute of Occupational Safety and Health chairman Tan Sri Lee Lam Thye has urged the implementation of the Occupational Safety and Health Management System to prevent industrial accidents.

He said contractors should also carry out Hazard Identification, Risk Assessment and Risk Control at work sites for the safety of the workers as well as the people.

"Safety cannot be taken for granted. These places are bound to be risky but we must control it," he added.

Lee said supervisors of construction sites should also ensure that workers wear protective gear.

(a) Based on the article above, describe **three (3)** caused of incidents that contributed to this unexpected accident and give an example of each category.

(3 marks)

(b) Briefly explain **five (5)** principles of incident investigation.

(10 marks)

(c) Proper investigation of incidents must be done in order to propose effective corrective actions. Discuss the steps in incident investigation that should be done before an incident can be analysed and corrective action can be implemented.

(12 marks)

- END OF QUESTION -

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FIGURE Q2