



**UNIVERSITI TUN HUSSEIN ONN
MALAYSIA**

**FINAL EXAMINATION
SEMESTER I
SESSION 2011/2012**

COURSE NAME : OCCUPATIONAL SAFETY AND
HEALTH MANAGEMENT

COURSE CODE : BPC 32503

PROGRAMME : 3 BPB

EXAMINATION DATE : JANUARY 2012

DURATION : 2 HOURS 30 MINUTES

INSTRUCTION : SECTION A
ANSWER ALL QUESTIONS.

SECTION B
ANSWER **TWO (2)** OUT OF FOUR
QUESTIONS.

THIS QUESTION PAPER CONSISTS OF 5 PAGES

SECTION A (50 marks)

- Q1 In a local paint manufacturing plant, a work unit J is exposed to chemical Y with hazard rating of 5 and exposure rating of 1. Another work unit K is exposed to chemical Z with hazard rating of 3 and exposure rating of 5.

Table Q1: Risk Matrix

		EXPOSURE RATING (ER)				
		1	2	3	4	5
HAZARD RATING	1	RR=1	RR=2	RR=2	RR=2	RR=3
	2	RR=2	RR=2	RR=3	RR=3	RR=4
	3	RR=2	RR=3	RR=3	RR=4	RR=4
	4	RR=2	RR=3	RR=4	RR=4	RR=5
	5	RR=3	RR=4	RR=4	RR=5	RR=5

RISK NOT SIGNIFICANT (diagonal from top-left to bottom-right)

RISK SIGNIFICANT (diagonal from bottom-left to top-right)

Category 1 (shaded area: RR=4, RR=4, RR=5)

Category 2 (shaded area: RR=5, RR=5)

- (a) Based on Table Q1, prepare the risk matrix and label the risk rating for both chemicals Y and Z. (7 marks)
- (b) Based on question Q1(a)
- (i) List the hierarchy of control. (6 marks)
- (ii) Discuss the control strategies for hazardous chemical and excessive time exposure among workers. (12 marks)

Q2 An accident involving a machine operator was reported at ABC woodworking factory. During the operation of the machine, a part fell from the machine into a rotating belt. The result was a serious injury to the operator. You as an independent investigator, is hired by the woodworking factory to determine the cause of the accident.

- (a) Define accident. (2 marks)
- (b) Describe incident investigation. (4 marks)
- (c) Explain the purpose of incident investigation. (4 marks)
- (d) Based on the situation in Q2, demonstrate steps in conducting the incident investigation. (15 marks)

SECTION B (50 marks)

Q3 A noise hazard may damage a person's hearing. Excessive noise can be generated within a business by plant and machinery, tools, compressed air and steam processes, as well as externally, from traffic or industrial premises close by.

- (a) Define
 - (i) Noise (2 marks)
 - (ii) Sound (2 marks)
- (b) Describe the health effect associated with excessive noise hazard. (3 marks)
- (c) Discuss **FOUR (4)** factors that affect the risk of Q3(b). (12 marks)
- (d) Explain at what sound level is it necessary to begin using some type of personal protective equipment (PPE). (6 marks)

Q4 Preventing injuries related to falling and lifting hazards is extremely important especially in the workplace environment.

(a) List the primary causes of falling hazards. (2 marks)

(b) List the **THREE (3)** types of falls. (3 marks)

(c) Explain **FIVE (5)** strategies in preventing slips and falls in the workplace. (10 marks)

(d) As a Safety and Health Officer in the logistic company, you were asked by your General Manager to conduct safety training on lifting technique among workers. Discuss the proper lifting technique that can be used to avoid back, neck and arm pains among workers. (10 marks)

Q5 A risk assessment is a process that is used to evaluate the likelihood of harm occurring and the severity of that harm. The results of the risk assessment can then be used to determine if the work can be performed safely.

(a) Define (i) Hazard (3 marks)

(ii) Risk (3 marks)

(b) List **ALL** basic components of risk management. (4 marks)

(c) Explain **TWO (2)** types of exposure and hazard measurement. (6 marks)

(d) Discuss **THREE (3)** types of risk assessment approaches. (9 marks)

Q6 Work related stress reported to have doubled since the early 1990s. In 2008, it is estimated that nearly half a million people reported suffering from work related stress, depression or anxiety.

(a) Define stress. (2 marks)

(b) Discuss **FIVE (5)** categories of human reaction to workplace stress. (15 marks)

(c) Discuss how improvement in safety and health could reduce workers' stress at the workplace. (8 marks)

END OF QUESTION PAPER