



UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2013/2014**

COURSE NAME : OCCUPATIONAL SAFETY AND HEALTH
COURSE CODE : BNJ 21102 / BNR 22502
PROGRAMME : 2 BNH/BNK/BNL/BNR
EXAMINATION DATE : JUNE 2014
DURATION : 2 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

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

CONFIDENTIAL

- Q1**
- (a) List **TEN (10)** industrial sectors and describe **THREE (3)** sectors that have high accident rate. (8 marks)
 - (b) Describe **TWO (2)** objectives of occupational Safety and Health Act 1994 and name the section which are protect the employees and the employers. (4 marks)
 - (c) Describe the objective of Factories and Machieries Act 1967 and list **FIVE (5)** regulations under this act. (7 marks)
 - (d) Discuss the university role to train a safety and health personnel based on Occupational Safety and Health Malaysian Plan 2015. (6 marks)

- Q2**
- (a) Give the definition of terminology:
 - (i) Hazard
 - (ii) Risk
 - (iii) Exposure
 - (iv) Consequences
 - (v) Probability(5 marks)
 - (b) Determine the task of :
 - (i) Hazard Identification (HI) and give **FOUR(4)** of the technique. (4 marks)
 - (ii) Risk Assessment (RA) and how it can be done (5 marks)
 - (iii) Risk Control (RC) based on hierarchy of control (4 marks)
 - (c) Discuss how HIRARC can be implemented in the workplace and how to reduce the occupational accidents and occupational diseases based on the HIRARC table. (7 marks)

Q3 Table 1 shows the total number of investigating cases of occupational disease and poisoning from 2005-2009.

Table 1: Total Number of Investigating Cases of Occupational Disease and Poisoning from 2005-2009

No.	Types of Disease	2005	2006	2007	2008	2009
1.	Occupational Lung Disease (OLD)	51	38	50	56	57
2.	Occupational Skin Disease (OSD)	57	30	192	70	53
3.	Occupational Noise Hearing Loss (NIHL)	190	106	120	169	427
4.	Occupational Muscular Skeletal Disorder (OMD)	10	22	18	31	57
5.	Disease caused by Chemical Agent	139	116	117	41	61
6.	Disease caused by Biological Agent	0	3	1	2	3
7.	Occupational Cancer	0	2	1	3	2
8.	Other and Non-Occupational Disease	4	45	47	81	2
	TOTAL	451	362	546	453	669

- (a) NIHL are the highest ranking regarding the occupational disease. Discuss the NIHL and the relevant regulation and how to reduce the NIHL in near future. (5 marks)
- (b) Disease by chemical agent (poisoning) is the second highest. Discuss the relevant regulation that can protect workers from the chemical exposure and the suitable equipment for workers protection. (5 marks)
- (b) Identify the classification of occupational hazard and give **TWO (2)** example each (5 marks)
- (c) Explain the terminology and its application:
 (i) Permissible Exposure Limit (PEL)
 (ii) Short term Exposure Limit (STEL)
 (iii) Action Level
 (iv) Ceiling Limit (4 marks)
- (d) (i) Convert 80ppm n-butyl acetate, which has a molecular weight of 116.2, to mg/m^3 unit. (2 marks)
- (ii) Convert $17 \text{ mg}/\text{m}^3$ diphenyl, which has a molecular weight of 169, to part per million (ppm) unit. (2 marks)
- (iii) Identify the source of Exposure Limit and explain the TWA_8 by showing the formula. (2 marks)

Q4 Accident investigation and reporting is very important to ensure the employers and employees protection. But in a real case, the Department of Occupational Safety and Health only have the reported cases and the expectation more of the accident is unreported.

- (a) State **THREE (3)** reason why accident was not reported. (3 marks)
- (b) Identify the NADOOPOD and how to use this regulation in terms of accident reporting and investigation. (5 marks)
- (c) Draft the flow chart and provide the information of NADOOPOD reporting procedure. (8 marks)
- (c) Draft the sequence of accident investigation steps and the requirement to make sure the investigation has follow the correct procedure. (9 marks)

- END OF QUESTION -