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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2019/2020**

COURSE NAME : OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT
COURSE CODE : BPC 32503
PROGRAMME CODE : BPB
EXAMINATION DATE : DECEMBER 2019 / JANUARY 2020
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION : ANSWER ALL QUESTIONS

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

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Q1 A near-miss incident caused by fire had occurred at one of your work department. Due to the incident, you as an Environment, Safety and Health executive has proposed to your top manager to reconduct an emergency action plan training for employees. For that purpose, you are require to prepare a paperwork that consist of the following:

- (a) Elaborate **FIVE (5)** conditions that the emergency plan should be reviewed. (10 marks)
- (b) List **SIX (6)** basic elements of emergency preparedness and response management. (6 marks)
- (c) Discuss **THREE (3)** levels of emergency. (9 marks)

Q2 List **THREE (3)** purposes of knowing an accident rate and show the formula to calculate the incident rate. (3 marks)

- (a) State the formula to calculate the incident rate. (3 marks)
- (b) Safety and health of people at work are influenced by the organization, the job and personal factors.
Describe **THREE (3)** most common personal factors affecting safety and health culture. (9 marks)

- (c) The key of a successful safety and health culture depending on the active involvement of workforce and implicit need of safety and health management system.

Elaborate the statement above in relation to the components of positive safety and health culture. (10 marks)

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Q3 The Domino Theory is among the popular accident causation theories and this theory was developed by Herbert W. Heinrich in the late 1920s. He came up with ten axioms of industrial safety that decision makers needed to understand in order to predict and prevent accidents. The summary these axioms explained that injury results from a series of events, one of which is the accident itself.

(a) Elaborate **FIVE (5)** elements in domino theory of accident causation. (10 marks)

(b) Demonstrates an example of accident that reflect to domino theory of accident causation with preventive measures that could be taken by the management. (15 marks)

Q4 A hazard identification, risk assessment and risk control (HIRARC) is carried out at Kernel Plant and Press Plant in one of the local palm oil mill. Based on the risk assessment, it found out that majority of Kernel Plant’s workers had experienced major cut injured and scratches for at least once a year. Meanwhile, Press Plant’s workers are experiencing sprain injuries for more than once in a week.

Table Q4(a): Risk assessment matrix table

		SEVERITY RATING (SR)				
		Superficial scratch, bruise (SR 1)	Medical injury (Eg. Minor cuts, scratches, sprain, burn and scald (SR 2)	Disabling but not permanent injury (Eg. Major cuts, bone fracture or crack) (SR 3)	Permanent disability (SR 4)	Fatality and catastrophic (SR 5)
LIKELIHOOD RATING (LR)	Occurred at least one time per year (LR 1)	1	2	3	4	5
	Occurred one or more time per month (LR 2)	2	4	6	8	10
	Occurred one or more time per week (LR 3)	3	6	9	12	15
	Occurred one time per shift or per day (LR 4)	4	8	12	16	20
	Occurred more time per shift or per day (LR 5)	5	10	15	20	25

Source: DOSH (2008) and Tziaferi *et al.*, (2011)

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Table Q4(b) : Risk control priority based on risk level

Risk Level	Description	Action
15-25	HIGH	A HIGH risk requires immediate action to control the hazard as detailed in the hierarchy of control. Actions taken must be documented on the risk assessment form including date of completion.
5-12	MEDIUM	A MEDIUM risk requires a planned approach to controlling the hazard and applies temporary measure if required. Actions taken must be documented on the risk assessment form including date for completion.
1-4	LOW	A risk identified as LOW may be considered as acceptable and further reduction may not be necessary. However, if the risk can be resolved quickly and efficiently, control measures should be implemented and recorded.

Source: DOSH (2008)

- (a) State the formula to measure the risk level. (3 marks)

- (b) Calculate the risk level of both injuries in Kernel Plant and Press Plant based on **Table Q4(a)**. (6 marks)

- (c) Analyse the appropriate risk control measures that should be taken based on your answer in **Q4(b)** by referring to **Table Q4(b)**. (16 marks)

-END OF QUESTIONS-

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