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UTHM

Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN H USSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2017/2018**

COURSE NAME : OCCUPATIONAL SAFETY AND HEALTH
COURSE CODE : BWU 10302
PROGRAMME *CODE* : BWA / BWQ
EXAMINATION DATE : JUNE / JULY 2018
DURATION : 2 HOURS
INSTRUCTION : A) ANSWER ALL QUESTIONS IN OMR FORM.
B) SUBMIT BOTH QUESTION PAPER AND OMR FORM

THIS QUESTION PAPER CONSISTS OF TEN (10) PAGES

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- Q1** The main reason of realizing the safety issues at work is to _____.
- A. acquire a compensation from an insurance company after an accident.
 - B. be promoted at work.
 - C. go home safely.
 - D. reduce the cost of the company.
- Q2** The requirement of a safety system has _____.
- I. safe system at work
 - II. safety documentation
 - III. appropriate training for staff and student when required
 - IV. worker union
- A. I and II only
 - B. I, II and III only
 - C. II, III and IV only
 - D. I, II, III and IV
- Q3** Below are the hazards faced at work **except**
- A. Wearing slippers during loading/unloading goods.
 - B. Bare wires are not insulated.
 - C. A tank filled with petrol is next to a spot-welding station.
 - D. The toilet is too dirty to be used.
- Q4** The risk from electrical shock can be prevented or minimised if the person _____.
- A. regularly attend the necessary electrical course
 - B. aware with the circuitry diagram
 - C. posses a licence to handle the equipment
 - D. ensuring to use the good condition electrical equipment
- Q5** The creation of OSHA provides this important right to workers:
- A. The right to equal employment opportunities.
 - B. The right to privacy.
 - C. The right to pension benefits.
 - D. The right to a safe and healthful workplace.
- Q6** Below is a type of accidents, **except**
- A. Drowning
 - B. Hit by vehicle
 - C. Noise
 - D. Contact with moving machinery
- Q7** Which below is a type of hazard?
- A. Mineral dust exposure
 - B. Heat stress
 - C. Radiation
 - D. All the above
- Q8** Circuit breaker is included in _____.
- A. Electrical installation
 - B. Mechanical installation
 - C. Physical circuit installation
 - D. None the above

- Q9** Factors that effect of electricity hazards:
- | | |
|-------------------------------|--------------------|
| A. Severity of electric shock | C. Body resistance |
| B. Duration of current flow | D. All the above |
- Q10** What is the meaning of “Protection from indirect contact”?
- Provides isolation to parts of equipment that has potential to release charges
 - Provides isolation to parts of equipment that has potential to adsorb charges
 - Provide effective earthing to isolate glass that can charge electricity in case of fullure of the main isolator
 - Provides effective earthing to isolate metals that can charge electricity in case of failure of the main isolator
- Q11** What is the meaning of “Protection from direct contact”?
- Provides isolation to parts of equipment that has potential to release charges
 - Provides isolation to parts of equipment that has potential to adsorb charges
 - Provide effective earthing to isolate glass that can charge electricity in case of failure of the main isolator
 - Provides effective earthing to isolate metals that can charge electricity in case of failure of the main isolator
- Q12** Define a mechanical work:
- use of any powered equipment to transfer loads or goods
 - use of any powered equipment to shift loads or goods
 - use of any powered equipment to lift human loads
 - All the above
- Q13** Below are types of equipment for mechanical work, **except**
- | | |
|-----------|----------------|
| A. Cranes | C. Forceps |
| B. Hoists | D. Dumbwaiters |
- Q14** The advantage of mechanical equipment used during working is _____.
- Reduces worker ergonomic risks
 - Worker has more time to rest
 - Decreases productivity
 - Low initial costs
- Q15** Chemical hazards include:
- | | |
|---------------|------------------|
| A. Paint | C. Mineral Dust |
| B. Detergents | D. All the above |
- Q16** Which of the following is **not** likely direct source of ground water contamination?
- Industrial effluents
 - Underground leaks
 - Landfill leachate
 - Chemical spills



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Q17 List types of personal protective equipment (PPE):

- | | |
|-----------------------|------------------------|
| I. Goggles | III. Lab coat |
| II. Fire extinguisher | IV. Gloves |
| A. I and II only | C. II, III and IV only |
| B. I, II and III only | D. I, II, III and IV |

Q18 Below are assessments for eliminating physical hazards:

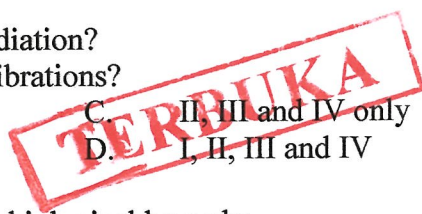
- I. Are workers exposed to anything that can be inhaled, ingested or absorbed into the body?
 - II. Is there any noise in the workplace?
 - III. Are there any temperature extremes that could affect workers, equipment or materials?
 - IV. Are workers exposed to any radiation?
- | | |
|-----------------------|------------------------|
| A. I and II only | C. II, III and IV only |
| B. I, II and III only | D. I, II, III and IV |

Q19 Below are assessments for eliminating chemical hazards:

- I. Are workers exposed to anything that can be inhaled, ingested or absorbed into the body?
 - II. Are all chemicals labelled and classified properly?
 - III. Are there any temperature extremes that could affect workers, equipment or materials?
 - IV. Are workers exposed to any radiation?
- | | |
|-----------------------|------------------------|
| A. I and II only | C. II, III and IV only |
| B. I, II and III only | D. I, II, III and IV |

Q20 Below are assessments for eliminating psychosocial hazards:

- I. Are individuals at risk from bullying from other employees within the company?
 - II. Are tasks evenly distributed to prevent one individual from experiencing work overload?
 - III. Are workers exposed to any radiation?
 - IV. Would workers be subject to vibrations?
- | | |
|-----------------------|------------------------|
| A. I and II only | C. II, III and IV only |
| B. I, II and III only | D. I, II, III and IV |



Q21 Below are assessments for eliminating biological hazards:

- I. Are workers exposed to any radiation?
 - II. Are workers exposed to substances produced by living things that can cause illness?
 - III. Are all workers that are dealing with biological substances trained or certified in handling?
 - IV. Are workers exposed to anything that can be inhaled, ingested or absorbed into the body?
- | | |
|--------------------|--------------------|
| A. I and II only | C. III and IV only |
| B. II and III only | D. I and IV only |

- Q22** Below are assessments for eliminating ergonomic hazards:
- I. Are workers exposed to any radiation?
 - II. Can injury or strain arise from the design and organization of a worker's work space?
 - III. Are there any blind spots or poorly lit areas in the work space?
 - IV. Are workers exposed to anything that can be inhaled, ingested or absorbed into the body?
- A. I and II only
 - B. II and III only
 - C. III and IV only
 - D. I and IV only
- Q23** The Biological Monitoring process of toxic substance in human body may include the following samples **except**
- A. Blood
 - B. Urine
 - C. Saliva
 - D. Teeth
- Q24** The risk management process involves some of the OSH standard procedures. Which of the following is **not** included in the main standard procedures?
- A. Identifying a hazard
 - B. Assessing the risk
 - C. Putting in place control measures
 - D. Conducting interview
- Q25** Which of the following are included in the 'Hazard Identification' process?
- I. Workplace inspection.
 - II. Hazard elimination.
 - III. Investigate accident records
 - IV. Hazard isolation.
- A. I and III only
 - B. I, II and III only
 - C. I, II, III and IV
 - D. None are correct
- Q26** Define the risk assessment term.
- A. The process of documenting the risk and hazards at workplace
 - B. The legislation process of documenting the potential hazard at workplace
 - C. The process of evaluating the risks to safety and health arising from hazard at work
 - D. The process which hazard is identified, measured and taken mitigating necessary action
- Q27** The source of hazards can be classified in a few categories which are:
- I. Mechanical Hazard
 - II. Electrical Hazard
 - III. Chemical Hazard
 - IV. Ergonomic hazard
- A. I and III only
 - B. I, II and III only
 - C. I, II, III and IV
 - D. None are correct
- Q28** Which of the following are the correct types of hazard inspection procedures?
- I. Statutory Inspection
 - II. Periodic Inspection
 - III. Formal and Informal Inspection
 - IV. Electrical System Inspection
- A. I and II only
 - B. III and IV only
 - C. I, II and III only
 - D. I, II and IV only

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- Q29** The pre-assessment of information gathering on the facilities, processes and activities of the organization includes some of the important data which are:
- | | |
|----------------------------|----------------------|
| I. Site area map | III. Monitoring data |
| II. Inventory of materials | IV. Toxicology data |
| A. I and II only | C. III and IV only |
| B. I, II and III only | D. I, II, III and IV |
- Q30** Which of the following choices is **not** the method used in Hazard analysis?
- | | |
|------------------------------|--|
| A. Job Safety Analysis (JSA) | C. Hazards and Operability Studies (HAZOP) |
| B. Economic analysis | D. Fault Tree Analysis |
- Q31** Hazard exposure monitoring process may include the monitoring of _____.
- | | |
|----------------------|----------------------|
| I. noise | III. water pressure |
| II. heat | IV. radiation |
| A. I and II only | C. III and IV only |
| B. I, II and IV only | D. I, II, III and IV |
- Q32** Medical surveillance in working place is warranted by law only if _____.
- | | |
|---|----------------------|
| I. no hazardous substance is used | |
| II. there are evidence or reason to suspect injury | |
| III. atmospheric monitoring is insufficient | |
| IV. workers not wearing personal protective equipment (PPE) | |
| A. I and II only | C. II and III only |
| B. I, II and III only | D. I, II, III and IV |
- Q33** The Job and Safety Analysis (JSA) table format contain the information of:
- | | |
|-----------------------------|--------------------------------------|
| I. fact problems | III. learning issues |
| II. related job description | IV. list of things that can go wrong |
| A. I and II only | C. II and IV only |
| B. I, II and III only | D. I, II, III and IV |
- Q34** The Hazard and Operability Studies (HAZOP) method is used to:
- | | |
|---|----------------------|
| I. identify and evaluate safety hazard in the process plant | |
| II. educate the public on the danger of hazards | |
| III. review the standard regulations | |
| IV. identify the operability problems | |
| A. I and III only | C. I, II and IV only |
| B. I and IV only | D. I, II, III and IV |
- Q35** The Fault Tree Analysis method is used to:
- | | |
|---|----------------------|
| I. analyse how and why an incident could occur at working place | |
| II. evaluate the chemical substance used at work | |
| III. calculate the probability of end event | |
| IV. justify the possible danger of tool system used at work | |
| A. I and III only | C. I and IV only |
| B. I, II and IV only | D. I, II, III and IV |

- Q36** Risk assessment result is documented and typically being used for _____.
- I. Risk control in OSH management
 - II. Company ISO record
 - III. Future reference and review
 - IV. Action and penalty
- A. I and II only C. II and III only
B. I and III only D. I, II, III and IV
- Q37** Select the most **truth** statements indicate the risk assessment should be carried out for.
- I. Routine and non routine activities including emergencies
 - II. Activities during routine fire drill exercise
 - III. Activities of all personnel having access to the workplace
 - IV. Facilities at the workplace, whether provided by the organisation or others
- A. I, II and III only C. I, II, III and IV
B. I, III and IV only D. None listed above
- Q38** Define the severity category for the injury that just requires the first aid treatment.
- A. Minor injuries C. Fatality
B. Major injuries D. Negligible injuries
- Q39** The likelihood of occurrence of hazard under 'unlikely category' can carry the meaning that the potential hazard could happen _____.
- A. Frequently C. Rarely
B. Occasionally D. Never
- Q40** Under the Semi-Quantitative risk assessment method, a person which was MC leaved for more than 4 consecutive days can be categorised to having severity of _____.
- A. Level 1 C. Level 3
B. Level 2 D. Level 4
- Q41** Under the Semi-Quantitative risk assessment method, any hazard that potentially repeating occurs monthly can be categorised to having a likelihood occurrence of _____.
- A. Level 1 C. Level 3
B. Level 2 D. Level 4
- Q42** The 'Quantitative' risk assessment method shall be conducted for the case where _____.
- A. Hazards are indentified as minor and the documentation process is simple
 - B. Hazards are indentified as tolerable and the documentation process is simple
 - C. Hazard is indentified as tolerable and the documentation process is complex
 - D. Hazard is indentified as numerous and the documentation process is complex

- Q43** Under the ‘As Low as Reasonably Practicable (ALARP)’ method, the decision for action is considered as intolerable if _____.
- A. The level of risk is not present on any ground
 - B. The level of risk is moderately justified on any ground
 - C. The level of risk is justified with some control measure present on any ground
 - D. The level of risk cannot be justified on any ground
- Q44** The safety signs and corresponding colours categorize the priority of attention. What are the colours for the safety signs?
- I. Blue
 - II. Red
 - III. Orange
 - IV. Violet
- A. I and II only
 - B. I, II and III only
 - C. II, III and IV only
 - D. I, II, III and IV
- Q45** The most effective hazards controls measures is:
- A. Ensuring to always using the personal protective equipment (PPE) in the workplace
 - B. Ensuring to always practice the safe working environment to control the hazard
 - C. Identifying the hazard and apply effective control measures
 - D. Eliminating all hazards
- Q46** Based on the **Figure Q46** below, identify **two (2) incorrect** methods used in the crane lifting operation.

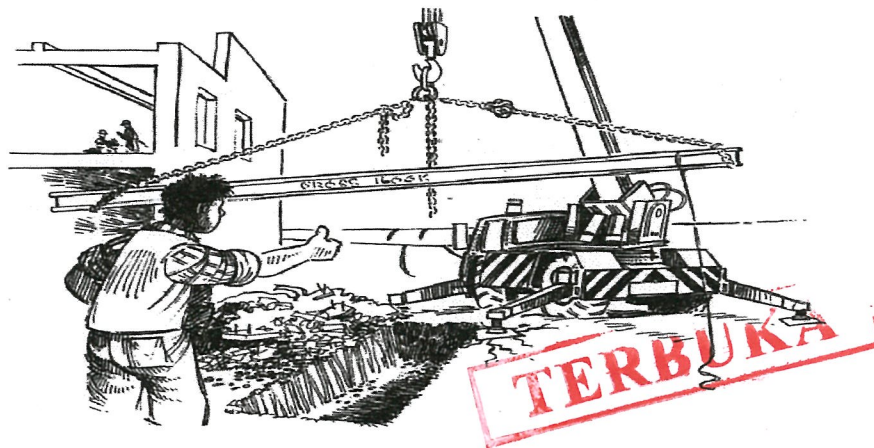


Figure Q46

- I. No safety clips on crane hook.
 - II. Signaller person not wearing safety helmet
 - III. The crane lifts the steel rods too high.
 - IV. Only one crane used in the lifting operation
- A. I and II
 - B. II and III
 - C. III and IV
 - D. I and III

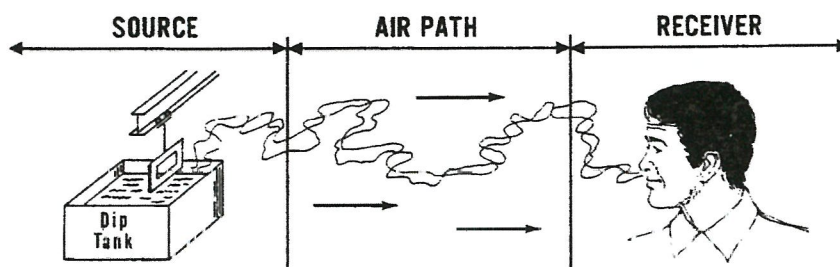


Figure Q49

Q49 Figure Q49 shows consequences of inhalation of hazardous gas / odour by person (i.e. Receiver) who is working in the chemical plant environment. Identify some **correct** hazard control actions that can be implemented to the 'Air Path' section, based on the list below.

- I. General ventilation
- II. Using air freshener to eliminate the odour
- III. Automation or remote control exhaust fan
- IV. Air filtering
 - A. I, II, IV
 - B. I, III, IV
 - C. I, II, III, IV
 - D. None listed above

Q50 Identify the some **CORRECT** hazard control actions that can be taken to the 'Receiver' section as previously shown in **Figure Q49**, based on the list below.

- I. Wearing a personal protective device (PPE)
- II. Provide enclosure area for the worker
- III. Duty rotation of worker
- IV. Personal monitoring and training
 - A. I, II, IV
 - B. I, III, IV
 - C. I, II, III, IV
 - D. None listed above

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- END OF QUESTIONS -