



UNIVERSITI KUALA LUMPUR
INSTITUTE OF MEDICAL SCIENCE TECHNOLOGY

FINAL EXAMINATION
OCTOBER 2025 SEMESTER

COURSE CODE : HRB20303
COURSE TITLE : OCCUPATIONAL HEALTH
PROGRAMME NAME : BACHELOR OF OCCUPATIONAL SAFETY & HEALTH (HONOURS)
DATE : 23 JANUARY 2026
TIME : 3:00PM - 6:00PM
DURATION : 3 HOURS



INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. This question paper consist of TWO sections.
4. Answer ALL questions for Section A.
5. Section B consist of four questions. Answer THREE (3) questions only.
6. Please write your answer on the answer booklet provided.
7. Please answer all questions in English only.
8. Please answer MCQ/EMQ questions using OMR sheet. *Tick if applicable*
9. Refer to the attached Formula/ Appendies. *Tick if applicable*

THERE ARE 19 PAGES OF QUESTIONS INCLUDING THIS PAGE

SECTION A (Total: 40 marks)

Answer ALL questions.

Please use the answer booklet provided.

1. Which of the following Sustainable Development Goals (SDGs) is **NOT** directly related to the area of occupational safety and health?
 - A. SDG 8 Decent work and economic growth
 - B. SDG 3 Good health and well being
 - C. SDG 5 Gender equality
 - D. SDG 14 Life below water

2. Occupational health services at workplace beneficial because
 - I. reduce workplace accidents
 - II. assist worker returning to work after prolonged illness leave
 - III. allow employer to get tax refund
 - IV. preventive action towards worker's health
 - A. I, II and IV
 - B. II, III and IV
 - C. I, II, and III
 - D. I, II, III and IV

3. Airborne transmitted diseases at workplace includes
 - I. ringworm
 - II. anthrax
 - III. scoliosis
 - IV. influenza
 - A. I and II
 - B. I and III
 - C. III and IV
 - D. II and IV

4. Permissible Exposure Limit (PLE) includes
- I. Biological exposure index
 - II. Maximum exposure limit
 - III. Short term exposure limit
 - IV. Eight hour -Time weighted average
- A. I, II and IV
 - B. I,II and III
 - C. II, III and IV
 - D. I,II, III and IV
5. What is the primary focus of occupational health services?
- A. Reducing operation cost
 - B. Protecting the workers
 - C. Ensure workplace regulation's compliance
 - D. Portray company commitment towards workers' welfare
6. Sonny frequently works with drilling tools; after 5 years of working, he developed numbness and weakness when gripping objects with one and tingling in his fingers. These are signs of _____.
- A. rotator cuff tendinitis
 - B. carpal tunnel syndrome
 - C. arthritis
 - D. tinnitus
7. Madam Moon develops burning and stinging within minutes of touching floor cleaning agent. Based on the signs, the condition is most likely refer as _____.
- A. tinea versicolor
 - B. allergic contact dermatitis
 - C. irritant contact dermatitis
 - D. cellulitis

8. Temporary removal of a worker from the current work task helps in the recovery process of the following diseases **EXCEPT** _____.
- A. noise-induced hearing loss
 - B. occupational asthma
 - C. metal fume fever
 - D. sick building syndrome
9. Target Organ Functions Tests includes _____ test.
- I. liver function
 - II. lung function
 - III. glucose
 - IV. urinalysis
- A. II, III and IV
 - B. I, II and III
 - C. I, II and IV
 - D. I, II, III and IV
10. Job strain is most likely to occur when _____.
- A. workers have high autonomy and good support
 - B. job demands are high and lack of autonomy
 - C. employees experience positive feedback
 - D. workload is balanced and manageable
11. Heat stroke is characterized by _____.
- A. mild rash due to sweating
 - B. sweating heavily and chills
 - C. core body temperature $>40^{\circ}\text{C}$, confusion, possible unconsciousness
 - D. gradual drop in body temperature

12. In Malaysia, Chemical hazardous to Health (CHTH) includes the following **EXCEPT** _____.
- A. organophosphate
 - B. benzene
 - C. scheduled waste
 - D. Natrium chloride
13. Madam Kajol is 60 years old and has been working in the coffee farm for the past four decades. Her tasks include pruning coffee trees. She is highly susceptible to _____.
- I. rhinitis
 - II. parasitic infection disease
 - III. neck pain
 - IV. contact dermatitis
- A. I, II and IV
 - B. II, III and IV
 - C. I, II, and III
 - D. I, II, III and IV
14. Hospital Cemerlang Sdn Bhd wants to improve compliance with workplace safety and health policies through staff competency. Which OSH activity best supports this goal?
- A. Surveillance Program
 - B. Safety Awareness training
 - C. Risk assessment
 - D. Surveillance Program

15. A healthcare worker sustains a needle-stick injury while handling contaminated sharps. At Ministry of Health, which OSH program should be activated first?
- A. Workers wellness campaign.
 - B. Risk Management Program.
 - C. Sharps injury training
 - D. Sharps Injury Surveillance Program.
16. Which of the following best defines an endocrine disrupting chemical (EDC)?
- A. A chemical that causes only cancer in humans.
 - B. A substance used to treat hormonal imbalance.
 - C. A chemical that strengthens hormone-receptor binding.
 - D. A substance that mimics hormonal functions.
17. All medical surveillance records shall be kept for _____.
- A. 30 years after end of workers' employment
 - B. throughout employment
 - C. 1 year only
 - D. 10 years after report duty date
18. Female solvent-handling workers report irregular cycles. Which axis is most likely disrupted?
- A. Oogenesis
 - B. HPA (hypothalamic-pituitary-adrenal)
 - C. HPG (hypothalamic-pituitary-gonadal)
 - D. RAS (renin-angiotensin)

19. Mr. Liam, a factory worker, has been suffering from chronic headaches and ringing in his ears following prolonged exposure to loud machinery noise. This describes _____.
- A. permanent threshold shift
 - B. tinnitus
 - C. insomnia
 - D. temporary threshold shift
20. Medical removal protection applies when _____.
- A. workers refuse to use Personal Protection Equipment
 - B. workers' health was adversely affected by workplace exposure
 - C. workers voluntarily request rest
 - D. employers introduced new chemicals in work process
21. Aromatic amines and diesel exhaust are occupational risk factors commonly linked to _____.
- A. bladder cancer
 - B. gingivitis
 - C. chronic kidney disease
 - D. prostate cancer
22. A worker exposed to asbestos develops cancer years later. Which cancer outcome is classically associated with this exposure?
- A. Gastric
 - B. Leukemia
 - C. Mesothelioma
 - D. Brain

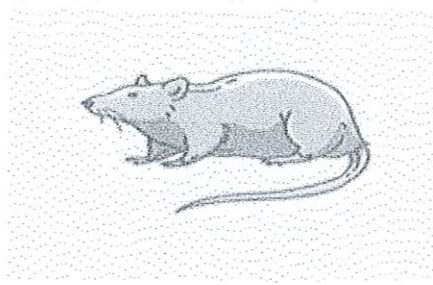
23. Poor workplace lighting may cause _____.
- I. eye strain
 - II. headaches
 - III. frostbite
 - IV. lack of work focus
- A. I, II, III and IV
 - B. I, II and IV
 - C. I, II, and III
 - D. II, III and IV
24. An occupational health practitioner reviews cancer risk factors among workers. Which factor is considered modifiable factors in occupational cancer prevention?
- A. Age
 - B. Gender
 - C. Genetic
 - D. Workplace practice
25. Work From Home (WFH) has become common after the COVID19-pandemic. What are possible adverse effects of WFH to employee's wellbeing?
- I. Anxiety
 - II. Work family conflicts
 - III. Social isolation
 - IV. Lack of self confidence
- A. II,III and IV
 - B. I,II and III
 - C. I,II and IV
 - D. I,II,III and IV

26. Which of the following are health effects on workers with long-term exposure to whole-body vibration (WBV)?
- I. Loss of balance
 - II. Poor vision
 - III. Chronic lower back pain
 - IV. Conjunctivitis
- A. I and III
 - B. I and II
 - C. II and III
 - D. II and IV
27. A radiographer can be exposed to radiation of an average _____ mSV/year
- A. 20
 - B. 3
 - C. 50
 - D. 100
28. The following are **TRUE** about risk factors that associated with Computer Vision Syndrome **EXCEPT**
- A. aging
 - B. uncorrected vision
 - C. color preference
 - D. poor contracts between screen and background

29. The following are the risk factors of heat related illness,
- I. direct sun exposure while working
 - II. wearing black color clothes while working
 - III. taking lots of caffeine drinks
 - IV. doing work that require physical strenuous
- A. I, II and III
- B. I, II and IV
- C. II, III and IV
- D. I,II, III and IV
30. SERI MAS Sdn Bhd is a recycling factory has reported an increase in respiratory illnesses among workers. Investigations reveal exposure to biological hazards, including mold and bacteria from damp environments. What can be done by management to address these issues effectively?
- I. training on personal hygiene
 - II. extensive cleaning on the area involved
 - III. isolate affected workers
 - IV. shutdown the operation until further notice
- A. I, II and III
- B. I, II and IV
- C. II, III and IV
- D. I, II, III and IV
31. Which of the following scenarios best describes an acute exposure event?
- A. An office worker experiencing mild stress daily
 - B. A technician inhaling a large amount of gas due to an accidental leak
 - C. A factory worker exposed to noise levels of 80 dB daily for a decade
 - D. A miner developing lung disease after years of exposure to dust

32. Stakeholders related to occupational health services in Malaysia are,
- I. Department of Occupational Safety and Health (DOSH)
 - II. Social Security Organization (SOCSO)
 - III. National council of Occupational Safety and Health (NCOSH)
 - IV. National Institute of Occupational Safety and Health (NIOSH)
- A. I, II and IV
 - B. II, III and IV
 - C. I, II and III
 - D. I, II, III and IV
33. The following are causal factors of lung cancer among workers,
- I. prolonged exposure to ultraviolet radiation
 - II. handling PAH substances while working
 - III. history of smoking
 - IV. poor immune systems
- A. II, III and IV
 - B. I, II and III
 - C. I, II, III and IV
 - D. I, II, III and IV

34. Which of the statements described disease related to biological hazards in figure below,



- I. transmit by sharing food with co-workers
 - II. caused by bacteria
 - III. can be prevented through handwashing before eating
 - IV. spread in the urine of infected animals
- A. II, III and IV
 - B. I,II and IV
 - C. I,II and III
 - D. I, II, III and IV
35. What is the deterministic effect of radiation exposure to the nuclear plant workers?
- I. Cataract
 - II. Cancer
 - III. Leukemia
 - IV. Hair loss
- A. I and II
 - B. II and III
 - C. I and IV
 - D. II and IV

36. Which is the most effective preventive measure for nurse against Hepatitis B?
- A. Immunization
 - B. Frequent handwashing
 - C. Training
 - D. Physical distancing
37. Exposure to the endocrine disruptors chemical (EDCs) at work can adversely affect human reproductive system including,
- I. silicosis
 - II. infertility
 - III. preterm birth
 - IV. hypertension
- A. I and IV
 - B. II and III
 - C. I and II
 - D. II and IV
38. The following are **TRUE** about medical surveillance records **EXCEPT** _____.
- A. medical surveillance record can be signed by general practitioner
 - B. employer can deduct cost of medical surveillance from employee's salary
 - C. keep during employment only.
 - D. must be communicated to employee

39. Work related musculoskeletal disorders,
- I. multi causal
 - II. can limit employee's productivity
 - III. manageable through awareness training
 - IV. financial burden to organization
- A. II,III and IV
 - B. I,II and III
 - C. I,II and IV
 - D. I,II,III and IV
40. Medical examination of worker exposed to chemical hazardous to health shall retrieve on
- I. history of exposure
 - II. personal details
 - III. current employment information
 - IV. usage of PPE records
- A. II,III and IV
 - B. I,II and IV
 - C. I,II and III
 - D. I,II,III and IV

SECTION B (Total: 60 marks)

Answer THREE (3) questions only.

Please use the answer booklet provided.

Question 1

Occupational noise-induced hearing loss (NIHL) is one of the most significant compensable occupational diseases in Malaysia, placing a considerable economic burden on the nation.

(a) Determine the following terminologies:

- i. Noise
- ii. Excessive sound

(4 marks)

(b) Interpret the following audiometry results. Justify your answer.

Refer Below - Table1 : Audiometry results .

(6 marks)

Table 1: Audiometry results

Name	Age / Sex / Occupation	Test Date	Ear	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
John Miller	45 / Male / Factory worker	2025-08-20	Right	10	5	5	10	45	30
			Left	5	0	0	5	40	25
Sarah Lee	25 / Female / Office worker	2025-08-10	Right	0	0	0	0	5	10
			Left	0	0	0	0	5	10

(c) Outline components of Hearing Conservation Programme in Malaysia

(10 marks)

Question 2

Mr. Xavier is an occupational health specialist at KUAH KACANG SDN BHD, a food processing company that operates 24 hours/day, 5 days/ week in 3 shifts/day of day, afternoon and night as shown in table below (Table: Current duty schedule). Workers are required to work 5 days/ week of 8 hours/shift/day and are entitled for time off which is 2 hours, twice per month.

Following high market demands, the CEO of KUAH KACANG SDN BHD in the operation meeting suggested that the company for 24 hours/day, 3 shifts/day. In the newly proposed, workers will work 12 hours/shift/day for 4 days/week (Table: Proposed duty schedule). The privilege of 2 hours' time off will be dissolved. As appreciation, the workers are entitled to a meal allowance of RM 20/day for working days.

The top management has requested Mr. Xavier to review the proposed duty roaster and assess its feasibility in the context of safety and health.

Refer Below - Table2 : Current work schedule . Table3 : Proposed work schedule .

Table 2: Current work schedule

Current roaster - 6 hours shift/ day

Group	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
1	D	D	D	D	D			N	N	N	N	N			D	D	D	D	D			A	A	A	A	A		
2	N	N	N	N	N			N	N	N	N	N			A	A	A	A	A			D	D	D	D	D		
3	N	N	N	N	N			N	N	N	N	N			N	N	N	N	N			N	N	N	N	N		
4	D	D	D	D	D			A	A	A	A	A			D	D	D	D	D			A	A	A	A	A		

Legend: D= Day shift, N= Night shift, A= Afternoon shift

Table 3: Proposed work schedule

Proposed roaster - 12 hours shift/ day

Group	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
1	D	D	D	D			N	N	N	N			D	D	D	D			N	N	N	N			D	D	D	D
2					N	N	N	N			N	N	N	N			D	D	D	D			D	D	D	D		
3	N	N	N	N			N	N	N	N			N	N	N	N			N	N	N	N			N	N	N	N
4	D	D	D	D			D	D	D	D			D	D	D	D			D	D	D	D			D	D	D	D

Legend: D= Day shift, N= Night shift

- (a) Describe the following terminologies
 - i. health
 - ii. occupational health

(4 marks)

- (b) Identify **TWO (2)** adverse effect to workers based on current duty schedule.
(4 marks)
- (c) Compare both work schedules, recommend best option that benefits the workers' health. Justify your answer.
(4 marks)
- (d) Based on your answer in (b), point out **TWO (2)** approaches that can be recommended by Mr. Xavier to top management of Kuah Kacang Sdn Bhd to reduce the adverse effects
(4 marks)
- (e) As an employee, briefly discuss **TWO (2)** proactive actions that can be taken to facilitate your health wellbeing
(4 marks)

Question 3

Malaysia has developed to become an industrialized nation. The emergence of industrial activities has led to the use of various chemicals which can be hazardous to health. The Medical Surveillance Programme can be proactive and corrective action to protect the employee from occupational diseases.

- (a) Analyse **ONE (1)** reason to perform medical surveillance programme at workplace
(2 marks)
- (b) In the medical surveillance programme, point out **ONE (1)** responsibility for each of the following personnel;
- i. Occupational Health Doctor
 - ii. Employer
 - iii. Employee
- (6 marks)
- (c) Point out **TWO (2)** types of medical surveillance programme can be conducted at workplace
(4 marks)
- (d) Illustrate the medical surveillance programme
(8 marks)

Question 4

Exposure to harmful chemicals at workplace can interfere with or cause damage to worker's body's organs or vital systems.

(a) Determine the following terminologies:

- i. Toxin
- ii. Toxicant
- iii. Toxicology
- iv. LD50
- v. ED50
- iv. LD₅₀
- v. ED₅₀

(10 marks)

(b) Briefly discuss ONE (1) factor that can enhance the toxicity of chemical effects to workers

(4 marks)

(c) Illustrate the relationship between toxicology and occupational health

(6 marks)

END OF EXAMINATION PAPER

