



UNIVERSITI KUALA LUMPUR  
INSTITUTE OF MEDICAL SCIENCE TECHNOLOGY

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FINAL EXAMINATION  
OCTOBER 2025 SEMESTER

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COURSE CODE : HGB20703  
COURSE TITLE : ENVIRONMENTAL & OCCUPATIONAL MANAGEMENT SYSTEM  
PROGRAMME NAME : BACHELOR OF OCCUPATIONAL SAFETY & HEALTH (HONOURS)  
DATE : 28 JANUARY 2026  
TIME : 9:00AM - 12:00PM  
DURATION : 3 HOURS



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INSTRUCTIONS TO CANDIDATES

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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*

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THERE ARE 18 PAGES OF QUESTIONS INCLUDING THIS PAGE

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## SECTION A (Total: 40 marks)

Answer ALL questions.

Please use the answer booklet provided.

1. Which component of a management system is primarily responsible for identifying trends from minor nonconformance report?
  - A. Management review
  - B. Emergency preparedness
  - C. Operational procedures
  - D. Leadership commitment
  
2. An organization can apply corrective action over non-conformance issues identified in audit findings through \_\_\_\_\_.
  - A. root causes analyses
  - B. force person in charge to be responsible
  - C. delaying response indefinitely
  - D. resolve issues without investigating root causes
  
3. External factors can be either beneficial or harmful and may involve conditions, attributes, or evolving situations that influence the Integrated Management System. The following are examples of external issues for an organization **EXCEPT** \_\_\_\_\_.
  - A. new competitor
  - B. emergence of new occupations
  - C. changes in business direction
  - D. amendment of legislation

4. Which elements of ISO 14001: 2015 reflect the following sub clauses?
- Communication
  - Environmental objective
- A. Check
- B. Act
- C. Plan
- D. Do
5. In OSH management system, the procurement process in organization should ensure that \_\_\_\_\_.
- I. materials are delivered adhere to safety specification
  - II. cost is prioritized over health and safety requirements
  - III. training is provided to the workers upon receiving of machine
  - IV. installation of machinery are inspected and commission upon delivery
- A. II, III and IV
- B. I, III and IV
- C. I, II, and III
- D. I, II, III and IV
6. Commitment of organization's top management towards implementation of OSH management system includes
- I. encourage workers to report on OSH related incidents
  - II. protecting workers against reprisals
  - III. active participate in OSH promotion activities at workplace
  - IV. approval of OSH initiatives funds
- A. II, III and IV
- B. I, III and IV
- C. I, II and III
- D. I, II, III and IV

7. How does the organization address subcontractors and outsourcing exercise in OSH management system?
- A. Organization is not allowed to appoint subcontractors.
  - B. Subcontractors are allowed to formulate their own OSH policies independently.
  - C. Subcontractors must comply with the organization's OSH requirements.
  - D. Transferring all OSH responsibilities to the subcontractor.
8. The following are examples of documented information related to ISO 9001 **EXCEPT** \_\_\_\_\_.
- A. purchasing guidelines
  - B. quality policy
  - C. quality objectives
  - D. air quality monitoring data for 2024
9. The aims of OSH management system are to \_\_\_\_\_.
- I. prevent work related injury
  - II. continually improve safety performance
  - III. secure trust from potential investor
  - IV. provide safe and healthy workplace
- A. I, II and IV
  - B. II, III and IV
  - C. I, II, and III
  - D. I, II, III and IV
10. Which organization accredits ISO certification bodies in Malaysia?
- A. Department of Environment
  - B. Local government
  - C. International Trade Council
  - D. Department of Standards Malaysia

11. In ISO, the term product refers to \_\_\_\_\_.
- I. self-laundry services
  - II. lithium battery
  - III. mineral water
  - IV. Canva software
- A. II, III and IV
  - B. I, III and IV
  - C. I, II and III
  - D. I, II, III and IV
12. The following criteria are **CORRECT** related to the formulation of quality objectives **EXCEPT** \_\_\_\_\_.
- A. compliance with obligations
  - B. without considering customer requirements
  - C. consistent with quality policy
  - D. achievable within timeline
13. According to OSH management system, hazard identification process in an organization should consider the following,
- I. routine operation.
  - II. extension of activities operation.
  - III. introduction of new hazards.
  - IV. unexpected disaster situation in the vicinity of the workplace.
- A. II, III and IV
  - B. I, II, and III
  - C. I, II and IV
  - D. I, II, III and IV

14. Which of the statement below is TRUE about the product's Life Cycle Assessment (LCA)?
- A. Evaluate only environmental impacts during the manufacturing stage.
  - B. Improve company image towards environmentally initiatives.
  - C. Estimate the cost of product development.
  - D. Identify improvement opportunities of product in context of environmental aspect.
15. Product certified with a Type I ecolabel (ISO 14024) typically indicates that the product \_\_\_\_\_.
- A. is energy efficient
  - B. is biodegradable only
  - C. is recyclable
  - D. meets environmental criteria across its lifecycle
16. Audit exercise of ISO 45001:2015 monitors \_\_\_\_\_.
- A. total of workplace incidents per year
  - B. percentage of product return per batch
  - C. energy consumption per product
  - D. clinical waste generation per month
17. Companies shall recruit competent people in performing works related to safety at workplace. This statement refers to clause \_\_\_ of ISO 45001: 2018.
- A. 6
  - B. 7
  - C. 4
  - D. 8

18. Potential interested parties for OSH management system are \_\_\_\_\_.
- I. competitors in the same business chain
  - II. employee's representatives
  - III. local authority
  - IV. Department of Occupational Safety and Health
- A. I, III and IV
  - B. II, III and IV
  - C. I, II, and III
  - D. I, II, III and IV
19. The following are continual corrective initiatives that can be done by an organization to address OSH non-compliance at workplace,
- I. installation of automated machine
  - II. send workers for awareness training
  - III. imposed penalty to workers for not wearing personal protective equipment
  - IV. management review process
- A. II, III and IV
  - B. I, II, III and IV
  - C. I, II and IV
  - D. I, II and III
20. The intended outcomes of the environmental management system are \_\_\_\_\_.
- I. fulfillment of compliance obligation
  - II. promote product branding
  - III. improvement of environmental performance indicators
  - IV. achievement of environmental objectives
- A. II, III and IV
  - B. I, II, and III
  - C. I, and III, IV
  - D. I, II, III and IV

21. The intended outcomes of OSH management system are \_\_\_\_\_.
- I. continual improvement of OSH performance
  - II. international recognition for business image
  - III. fulfillment of compliance obligation
  - IV. achievement of OSH objectives
- A. I, III and IV
  - B. II, III and IV
  - C. I, II and III
  - D. I, II, III and IV

22. The following statement refers to clause \_\_\_\_\_ of ISO 9001:2015.

Lot number, batch number and date of manufacturing can be used as unique identification in facilitating traceability

- A. 4
  - B. 9
  - C. 7
  - D. 8
23. Management review shall be planned and carried out taking into consideration of \_\_\_\_\_.
- I. company's annual sales performance
  - II. inadequacy of funding
  - III. audit results
  - IV. changes in OSH related regulation
- A. I, II, and III
  - B. II, III and IV
  - C. I, II, and IV
  - D. I, II, III and IV

24. Descriptions below are **TRUE** about the principles of Quality Management System,
- I. customer focus
  - II. process approach
  - III. workers participation
  - IV. evidence-based decision making
- A. I, II and III
  - B. I, II and IV
  - C. II, III and IV
  - D. I, II, III and IV
25. When determining its environmental aspects, the organization shall include \_\_\_\_\_.
- I. language barrier between workers
  - II. dispersion of H<sub>2</sub>S per hour
  - III. energy consumption/unit of product
  - IV. raw materials used to develop the product
- A. I,II and III
  - B. I,II and IV
  - C. II,III and IV
  - D. I,II,III and IV
26. Which of the following are **CORRECT** about quality policy?
- A. Provides framework for quality objectives.
  - B. Document is classified as record.
  - C. Must highlight rewards to be given for workers.
  - D. Accessible to the company top management only.

27. Harvest Ulu Sdn Bhd introduced a Flexible Working Arrangement (FWA) scheme for its staff in June 2024, requiring employees to be in the office only two days per week. However, according to the Human Resources (HR) Department, six months after implementation, there was an increase in medical leave due to mental health issues among staff. Which ISO 45003 principle BEST guides the corrective actions?
- A. Evaluate effect of changes in mode of working.
  - B. Conduct ergonomic assessment.
  - C. Provide meal allowance to workers.
  - D. Interview employees for opinion on preferred working mode.
28. Sempurna Rezeki Sdn Bhd recorded high staffs' turnover and frequent complaints of workload stress in 2024. According to ISO 45003, what should be analyzed first?
- A. Business direction of the company.
  - B. Company's financial goals.
  - C. Employees' social media posting.
  - D. Perceived workplace psychosocial risk factors
29. Beli sini Sdn Bhd, a furniture manufacturer is conducting a 'Cradle-to-Gate' LCA to one of its product; dining table. Which of the following processes would likely be included in the dining table system boundary?
- I. Harvesting timber from the forest.
  - II. Transport of the sofa to the warehouse.
  - III. Energy used by the machine in the factory.
  - IV. Chemical treatments applied during production.
- A. I,II,III and IV
  - B. I,II and IV
  - C. I,II, and III
  - D. II,III and IV

30. A manufacturer puts a '100% Recyclable' logo on their own box without getting it checked by SIRIM. This description refers to type \_\_\_\_ of ecolabel.
- A. III
  - B. II
  - C. IV
  - D. I
31. LIMAS Construction has adopted ISO 45001:2018; however, the company still records high injury rates. Which of the following is a possible cause leading to this outcome?
- A. Unavailability of occupational health and safety policy.
  - B. Non-compliance on environmental objectives.
  - C. Ineffective implementation of hazard risk assessment processes.
  - D. Absence of legal and other requirements related to OSH.
32. An emergency drill shows confusion over spill response procedures. Which part of the ISO 14001 should be reviewed?
- A. Clause 9.2
  - B. Clause 8.2
  - C. Clause 6.1
  - D. Clause 10.3
33. In the Quality Management System (QMS), the internal issue for an organization is \_\_\_\_\_.
- A. revision of tax
  - B. change in strategic direction
  - C. consumer preferred choice
  - D. emergence of new occupations

34. The principle of sustainable development is to \_\_\_\_\_.
- A. establish good employers and workers relationships
  - B. prioritize industrial development over social and environmental concerns
  - C. maximize economic growth regardless of environmental impact
  - D. meet the needs of the present without compromising the ability of future generations
35. Which international standard provides the principles and framework for conducting a Life Cycle Assessment (LCA)?
- A. 14062
  - B. 14020
  - C. 14030
  - D. 14040
36. Which of the following is a requirement of emergency preparedness and response under ISO 45001?
- A. Outsourcing all emergency responsibilities to external agencies.
  - B. Identification of potential emergency situations and planning appropriate responses.
  - C. Preparing emergency plans only after an accident occurs.
  - D. Conducting financial risk assessments for emergency recovery.
37. Which of the following is **NOT** successful factor OSH management system implementation in an organization?
- A. Great leadership commitment of top management
  - B. Establishment of OSH objectives
  - C. Availability of Internal communication platform in organization
  - D. Ignore regulatory requirements.

38. The mandatory statement of workplace safety and health policy includes \_\_\_\_\_
- I. framework for setting environmental objectives
  - II. commitment to prevent work related disease
  - III. commitment to fulfill its compliance obligation
  - IV. pledge towards continual improvement of safety and health
- A. I, II, and IV
  - B. I, II, and III
  - C. II, III and IV
  - D. I, II, III and IV
39. "The organization shall monitor customers perceptions of the degree to which needs, and expectation have been fulfilled". This statement refers to clause \_\_\_\_\_ of ISO 9001:2015.
- A. 7
  - B. 5
  - C. 10
  - D. 9
40. Which clause supports analyzing effectiveness of communication with contractors on environmental responsibilities?
- A. Clause 7
  - B. Clause 3
  - C. Clause 10
  - D. Clause 8

## SECTION B (Total: 60 marks)

Answer THREE (3) questions only.

Please use the answer booklet provided.

**Question 1**

Organizations are increasingly expected to satisfy a wide range of stakeholder demands while also adhering to international standards. By adopting an Integrated Management System (IMS) that brings together quality, environmental, and occupational health and safety management, they can effectively and systematically manage these areas within a cohesive framework.

Based on the statement above,

- (a) Compare TWO (2) differences between the respective standards that are used to manage the above-mentioned key area. (12 marks)
- (b) Predict TWO (2) challenges that an organization may encounter during the implementation of an integrated management system of the above-mentioned key area (4 marks)
- (c) Propose TWO (2) strategic actions that top management can undertake to effectively address the identified challenges in (b) in implementing an integrated management system. (4 marks)

**Question 2**

An internal audit provides the status of ISO standards implementation in your organization's to top management.

(a) Define the following terminologies:

- i. audit
- ii. auditor
- iii. auditee

(6 marks)

(b) Point out TWO (2) purpose of Internal Audits of ISO

(4 marks)

(c) Describe the steps in planning and conducting ISO Internal Audit

(10 marks)

**Question 3**

Kerepek Kita Sdn. Bhd. is a mid-sized food manufacturing company based in Malaysia that specializes in the production of traditional fruit and vegetable chips for both local and regional markets. In recent years, the company has faced growing pressure from regulatory authorities, international buyers, and environmentally conscious consumers to minimize its environmental impact and adopt more sustainable manufacturing practices.

(a) Describe the terminologies:

- i. system
- ii. environmental management system

(4 marks)

(b) Based on the PDCA cycle, illustrate and discuss management system that can be adapted by Kerepek Kita Sdn. Bhd to achieve its continual improvement goals.

(16 marks)

#### Question 4

Bina Hijau Sdn Bhd, a construction company, has secured a housing development project over a 12-month period. The works includes land clearing, roadworks, and building construction.

To carry out the project, the company recruited 30 foreign workers from several countries including Indonesia and Nepal, to serve as the site workforce. These workers are scheduled to work from 8:00 a.m. to 6:00 p.m., six days/week. Most of them have no prior experience in the construction industry and possess little to no knowledge of occupational safety and health practices in construction. Their tasks include removing construction debris, assembling scaffolding, handling building materials, and assisting with the operation of heavy equipment. Mr. Ali, a local people is the site supervisor in charge and has to monitor two (2) other projects' site. Due to time limitation, the toolbox meeting only conducted once/week.

In December 2024, the Safety, Health, and Environment (SHE) department recorded two (2) safety and health cases:

Case 1: Hadi, 45 years old, male, Indonesian, was assigned for regulating traffic at site, suffered of heat stress symptoms such as hydration, hospitalized. At that time, he newly joined less than 1 month.

Case 2: Melon, 35 years old, male, Nepalese, was assigned for mixing, pouring, and leveling concrete every day, being struck by falling objects on his head, undergone surgery, hospitalized for 1 month, given 4 months medical leave, need to follow up with doctor. Investigation revealed that the scaffold was erected without following standard safety procedures. The worker sustained serious injuries, resulting in project delays and increased costs due to medical expenses and investigation procedures.

Annual report 2024 on matters related to environmental issues at the construction site, reported the following issues:

- management of construction waste
- Area exploration
- Noise from construction activities
- Storage and handling of construction materials (cement, diesel, paint)

Based on the information above, answer the following:

- (a) Based on the Integrated Management System (IMS), assess the following:
- i. Management risk
  - ii. Safety and health risk
  - iii. Environmental aspects and impacts
- For each, provide **ONE (1)** example.
- (12 marks)
- (b) Point out TWO (2) actions that can be taken by an organization to encourage workers participation in IMS
- (4 marks)
- (c) Explain ONE (1) advantage of IMS implementation to Bina Hijau Sdn Bhd .
- (4 marks)

END OF EXAMINATION PAPER

APPENDIX

## APPENDIX

Table 1 Likelihood Table

LIKELIHOOD (L)	EXAMPLE	RATING
Most likely	The most likely result of the hazard / event being realized	5
Possible	Has a good chance of occurring and is not unusual	4
Conceivable	Might be occur at sometime in future	3
Remote	Has not been known to occur after many years	2
Inconceivable	Is practically impossible and has never occurred	1

Table 2 Severity Table

SEVERITY (S)	EXAMPLE	RATING
Catastrophic	Numerous fatalities, irrecoverable property damage and productivity	5
Fatal	Approximately one single fatality major property damage if hazard is realized	4
Serious	Non-fatal injury, permanent disability	3
Minor	Disabling but not permanent injury	2
Negligible	Minor abrasions, bruises, cuts, first aid type injury	1

Table 3 Likelihood Table

Rating	Description @ Frequency on incident
Almost Certain (5)	It is almost certain that the consequence will occur. Common or frequent occurrence. Occur on daily basis
Likely (4)	The consequence is likely to occur. It is known too occur or 'it has happened'. Occur on weekly basis
Possible (3)	The consequence could occur or 'I've heard of it happening'. Occur on monthly basis
Unlikely (2)	The consequence is not likely to occur. There is confidence that it will not occur. Occur on yearly basis
Rare (1)	The consequence may only occur in exceptional circumstances. Once in 2 years

Table 4 Severity Table

Rating	Description
Catastrophic (5)	The impact of Environmental Pollution to goes to International scale, trans boundary impacts
Major (4)	The impact of Environmental Pollution to goes to National scale
Moderate (3)	The impact of Environmental Pollution to local scale
Minor (2)	The impact of Environmental Pollution to goes to organizational scale
Insignificant (1)	Positive impact to environment @ no negative impacts to the environment



Table 5 Risk Rating Table

		Consequence Severity				
		Insignificant Significant	Minor Extreme	Moderate Extreme	Major Extreme	Catastrophic Extreme
Likelihood	Almost Certain					
	Likely	Significant	Significant	Extreme	Extreme	Extreme
	Possible	Moderate	Moderate	Significant	Significant	Extreme
	Unlikely	Low	Low	Moderate	Significant	Significant
	Rare	Low	Low	Low	Moderate	Significant

