



(University of Choice)

# **MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)**

**UNIVERSITY REGULAR EXAMS  
SCHOOL OF NURSING MIDWIFERY AND PARAMEDICAL SCIENCES  
UNIVERSITY EXAMINATIONS**

**2023/2024 ACADEMIC YEAR  
SECOND SEMESTER**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN OCCUPATIONAL  
SAFETY AND GLOBAL HEALTH**

**FIRST YEAR FIRST TRIMESTER DL**

**COURSE CODE: NCO 423 NCG 221  
COURSE TITLE: HAZARDOUS MATERIALS AND ENVIRONMENTAL  
EMERGENCIES /HAZARDOUS WASTES MANAGEMENT**

**DATE: MONDAY 08<sup>TH</sup> APRIL 2024**

**TIME: 3PM-6PM**

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## **INSTRUCTIONS TO CANDIDATES**

**ALL QUESTIONS ARE COMPULSORY  
DURATION: 3 HOURS**

**MMUST OBSERVES ZERO TOLERANCE TO EXAMINATION CHEATING**

*This paper consists of 3 (three) printed pages. Please turn over.*

**SECTION A- Multiple Choice Questions (MCQs)****Answer all the questions in this section= 10 Marks**

1. Treatment of frostbite involves
  - (a) rubbing your feet gently with your warm hands
  - (b) moving around to restore circulation
  - (c) removing wet clothing and briskly rubbing the infected area with warm wet clothing
  - (d) covering the area with dry sterile dressings.
  
2. Exertional heatstroke can occur:
  - (a) during cool temperatures.
  - (b) when chemical protective clothing is worn.
  - (c) when substantial exertion occurs even in cool temperatures.
  - (d) All of the above
  
3. Heat cramps should be treated using:
  - (a) hydration.
  - (b) cooling.
  - (c) loosening or removal of the outer layer of clothing.
  - (d) All of the above
  
4. Hymenoptera are:
  - (a) spiders.
  - (b) scorpions.
  - (c) bee, hornets, and wasps.
  - (d) flying insects.
  
5. Hypothermia is:
  - (a) a body temperature of 95°F or lower.
  - (b) when chilblains occur.
  - (c) when frostbite occurs.
  - (d) All of the above
  
6. Signs and symptoms of anaphylaxis may include:
  - (a) difficulty breathing.
  - (b) hypothermia.
  - (c) decreased sodium levels.
  - (d) All of the above
  
7. Signs of heatstroke may include:
  - (a) collapse with seizure in a hot environment.
  - (b) decreased LOC with red, dry skin.
  - (c) rapid pulse with confusion and hyperventilation.
  - (d) All of the above
  
8. When a person is exposed to cold temperatures and strong winds for an extended period of time, he or she will lose heat mostly by:
  - (a) Radiation
  - (b) Convection
  - (c) Conduction
  - (d) Evaporation

*True /false statements*

9. When someone has a bite, be sure to wash the bite area with a lot of soap and water.
  - (a) true
  - (b) false
10. Being confused may be a symptom of heat stroke and low body temperature.
  - (a) true
  - (b) false

**SECTION B- Short Answer Questions (SAQs)****Answer all the questions in this section= 50 Marks**

1. What are hazardous materials (2 Marks)
2. Describe, how YOU would identify whether a substance is hazardous or not (8 Marks)
3. (a) Describe with examples radioactive waste types, with two examples in each category (6 marks)  
 (b) LIST any THREE
  - (i) human effects of radioactive substances (3 Marks)
  - (ii) environmental effects of radioactive substances (3 Marks)
 (c) Explain any three methods of radioactive wastes management/disposal (6 marks)
4. (a) What is the difference between biomedical wastes and biological hazards (2 Mark)  
 (b) Classify biomedical wastes (3 Marks)  
 (c) How would you manage the classes of wastes described in 'b' above? [at least 3 examples per class] (9 marks)
5. (a) What is a physical hazard (2 Marks)  
 (b) Other than the issue of extreme temperatures, with at least 2 examples in each category, explain any 2 causes of physical hazard in human beings (6 Marks)

**SECTION C- Long Answer Questions (LAQs)****Answer all the questions in this section=40 Marks**

1. Describe the management of hazardous gaseous waste materials in a factory setting and the principles behind the management ...IN EACH TYPE YOU JUST mentioned. (20 Marks)
2. Discuss the local and international laws/treaties of hazardous substances/wastes management (20 Marks)

END