



(University of Choice)

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

**UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR**

**3<sup>RD</sup> YEAR SECOND TRIMESTER EXAMINATIONS**

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

**COURSE CODE: NCO 322**

**COURSE TITLE: BIOLOGICAL RISK ASSESSMENT AND  
SAFETY MANAGEMENT**

**DATE: 20<sup>TH</sup> APRIL, 2022**

**TIME: 3PM to 6 PM**

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**INSTRUCTIONS TO CANDIDATES**

All Questions Are Compulsory

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over. ►

**PART ONE: MULTIPLE CHOICE QUESTIONS, MCQ (20 MARKS)**

1. The primary goal of occupational health is about:
  - A. Protecting the safety, health and welfare of people engaged in work
  - B. Protecting co-workers, family members employers, suppliers, nearby communities and other members of the public who are influenced by the workplace environment
  - C. Protecting the natural environment
  - D. None of these
2. The following are blood-borne infections except :
  - A. Hepatitis A
  - B. Hepatitis B & C
  - C. Measles
  - D. Human immune deficiency virus (HIV)
3. Biological hazards include all of the following, EXCEPT.
  - A. Bacteria
  - B. Viruses
  - C. Radiation
  - D. Fungi
4. Which of the following items is considered sharp?
  - A. Needles
  - B. Scalpels
  - C. Microscopic slides and coverslips
  - D. All of the above
5. What is the main objective of biological risk assessment?
  - A. To evaluate hazard and minimize the risks
  - B. Remediation of contaminated sites
  - C. Hazard management
  - D. To know source of pollutants
6. What is the first stage of biological risk assessment?
  - A. Exposure assessment
  - B. Hazard identification
  - C. Toxicity study
  - D. Risk characterization
7. The purpose of risk management is to identify potential problems before they occur so that risk-handling activities may be planned
  - A. False
  - B. True
8. Bio hazardous sharps containers must be rigid, leak resistant and puncture proof
  - A. True
  - B. False
9. What are the steps to take if you are exposed to blood or other infectious materials?
  - A. Needle sticks or sharps injuries should be immediately washed with soap and water
  - B. Irrigate eyes with an eye wash for 10 to 15 minutes
  - C. Report the incident to your supervisor and seek immediate medical treatment
  - D. All of the above
10. Which type of wastes are biomedical wastes?
  - A. Waste from industries
  - B. Waste from hospitals
  - C. Waste from communities
  - D. All of the above

11. Which of these is not a biomedical waste?
  - A. Fumes
  - B. Syringes
  - C. Sharp
  - D. Amputated body parts
12. Which of the following types of medical items requires sterilization?
  - A. Needles
  - B. Bed linens
  - C. Respiratory masks
  - D. Blood pressure cuffs
13. What should you do every time you remove your gloves?
  - A. Apply hand cream
  - B. Wash your hands with soap and running water
  - C. Rinse your gloves for reuse
  - D. None of the above
14. The Hepatitis B Vaccination is encouraged unless documentation exists that you have previously received the series; antibody testing reveals that you are immune; and/or medical evaluation shows that the vaccination is contraindicated.
  - A. True
  - B. False
15. Who is at risk of developing tuberculosis in this country?
  - A. People taking certain medicines
  - B. Farm workers
  - C. People with HIV
  - D. All of the above
16. Hepatitis B is the only form of hepatitis for which there is an effective vaccine
  - A. False
  - B. True
17. Which of the following is not an immediate measures to take following contact with infectious material:
  - A. Clean off the blood as soon as possible. Rinse the skin with water and disinfect the area using a skin disinfectant.
  - B. For splashes and droplets of blood/body fluids on intact skin, wash with soap and water. Disinfect the area using a skin disinfectant
  - C. For blood/body fluids splashed on broken skin, clean off blood/body fluid disinfect with a skin disinfectant plus PVP iodine.
  - D. None of the above
18. The effectiveness of respiratory masks and respirators depends not only on the correct choice of equipment, but also to a large extent on correct use and application
  - A. True
  - B. False
19. What type of waste disposal do all hospitals need?
  - A. Biomedical Waste disposal
  - B. Furnace waste disposal
  - C. Recycling waste disposal
  - D. None of the above

20. What does the following symbol mean?



- A. Radiation hazard
- B. Radioactive biological hazard
- C. Biological samples present
- D. Biohazard

**SECTION B: SHORT ANSWER QUESTIONS, SAQs (40 marks)**

1. Identify the types of hazard against which gloves could offer protection. (8 marks)
2. Give the practical limitations of using gloves as a means of protection. (8 marks)
3. Describe good company practices in handling contact infections (8 marks)
4. Identify four work practice restrictions which should be strictly observed by pregnant workers in a medical facility (8 marks)
5. Identify three ways of prevention of exposure to biological agents (6 marks)

**SECTION C: LONG ANSWER QUESTIONS, LAQs, (40 marks)**

1. (a) Identify possible routes of entry of biological organisms into the body. (6 marks)  
 (b) Outline control measures that could be used to reduce the risk of infection from biological organisms. (6 marks)  
 (c) Discuss four reasons for giving vaccinations in occupational settings (8 marks)
2. The proper handling, decontamination or containment and disposal of biological waste is an important infection control measure in all work settings.
  - a) Explain the terms sterilization and disinfection as used in decontamination of wastes. (6 marks)
  - b) Identify and explain three methods of sterilization (6 marks)
  - c) Discuss the characteristics of waste containers for the collection of sharps and pointed instruments in an hospital (8 marks)