

Botswana College of Distance and Open Learning

In Collaboration with

Zimbabwe Open University

Occupational Health and Safety (D-OS 01)

Sessional Examination, Semester 3, 2009

Duration: 3 hours

Marks: 120

Instructions

1. This examination is based on material covered in the course
2. The examination consists of three sections: A, B, and C
3. Answer questions according to instructions given in each section
4. Write answers in the answer booklet provided

Section A**[30 marks]**

Answer all questions in this section.

1. A _____ refers to something that has the likelihood to cause illness in the conditions of its use.
 - a. risk
 - b. safety
 - c. hazard
 - d. energy

2. _____ medical examinations are those performed because they are required by law.
 - a. executive
 - b. periodic
 - c. exit
 - d. general

3. _____ is primarily concerned with the control of occupational health hazards that arise during work.
 - a. occupational health
 - b. risk management
 - c. occupational hygiene
 - d. statutory examination

4. Which of the following does not fall in the sphere of occupational medicine?
 - a. post-employment illness
 - b. specialist discipline
 - c. pre-employment illness
 - d. periodic illness

5. Which of the following is not an objective of pre-placement medical examination?
 - a. To give a baseline for future treatment
 - b. to protect the company against future compensation
 - c. to select the right person for the job
 - d. to screen people infected with AIDS

6. Exit medical examination _____
- a. is done after an injury
 - b. is designed to improve general health and fitness
 - c. is done when somebody leaves the job
 - d. is done for injuries or diseases that affect the organs
7. Dermatitis is a disease _____
- a. of the heart
 - b. of lungs
 - c. transmitted by animals
 - d. of the skin
8. _____ dilute atmospheric oxygen, and that interferes with respiration.
- a. irritants
 - b. carcinogens
 - c. asphyxiants
 - d. anaesthetics
9. Toxicity of a substance refers to _____
- a. the chemical name of a substance
 - b. how poisonous or hazardous the substance is
 - c. a specific hazardous substance
 - d. emergency and first aid procedures
10. Which one of the following is not a biological stressor in the work environment?
- a. fatigue
 - b. fungi
 - c. algae
 - d. bacteria

11. _____ is the study of chemical substances that have the potential to cause health effects.
- psychology
 - toxicity
 - toxicology
 - chemical elimination
12. The results section of an occupational hygiene investigation report contains _____
- aims of the investigation
 - a summary of the investigation
 - interpretation of the results
 - the findings of the investigation
13. _____ noise is noise that never stops
- impulse
 - continuous
 - interrupted
 - fluctuating
14. The following are the effects of noise on health except _____
- interference with speech
 - annoyance
 - peace of mind
 - stress
15. Which one of these is an example of natural ventilation?
- opening windows
 - ceiling fans
 - generators
 - extractors

16. Which property of sound has to do with the velocity at which pressure is transferred from source to target?

- a. frequency
- b. sound pressure
- c. wave-length
- d. speed of sound

17. Which one of the following is incorrect regarding use of goggles?

- a. You cannot wear spectacles over them
- b. Due to discomfort, you may be tempted to work without them
- c. They may not fit you properly
- d. The protector may restrict the field of view

18. Which one of the following is fire-resistant?

- a. nylon
- b. asbestos
- c. polythene
- d. PVC

19. Welding goggles are worn on the _____

- a. chest
- b. hands
- c. face
- d. hip

20. Which respirator is designed to cover the nose and the mouth?

- a. an air purifying respirator
- b. air hose-pipe
- c. powered air purifying respirator
- d. half-mask respirator

21. Vision impairment refers to a disease of _____
- the muscles
 - the respiratory system
 - the eyes
 - the lungs
22. An event that affects the completion of a task, and is unplanned is known as _____
- an incident
 - root cause
 - accident
 - near miss
23. An accident investigation programme refers to _____
- recommendations made to prevent accidents
 - the steps taken to establish facts about an accident
 - the safety rules at the workplace
 - discussion of how accidents happen at the workplace
24. Which of the following is not likely to cause you stress?
- a low workload
 - having to meet deadlines that are close to each other
 - a holiday after a lot of work
 - lack of expertise in doing the work.
25. All the following help in correcting negligence, recklessness and faulty behaviour by the worker except _____
- awarding the worker a holiday for hard work
 - advice on personal problems
 - on-the-job training to ensure safe methods of work
 - stricter discipline on the work floor

26. Which one is not a procedure of investigating an accident?
- plan the investigation before going into it
 - write a report of the findings
 - describe the accident and its location
 - publishing your intentions in the local newspaper
27. Post-accident conditions refers to _____
- inspection of the accident site before any changes take place
 - recording all the relevant information
 - circumstances after occurrence of the accident
 - taking photographs of the accident scene
28. When interviewing a witness at an accident scene, you are encouraged to do the following except _____
- Use the tape recorder with the consent of the witness
 - Obtain documents containing normal procedures followed when operating a machine
 - Be sincere and do not argue with the witness
 - get all the statements signed by those who gave them
29. To compensate a worker is to _____
- reward the worker for injury or illness suffered at the job
 - ask the worker to state the order in which the events took place
 - promote a worker who has been injured
 - hold a disciplinary hearing about an injury
30. The following are causes of job stress except _____
- having very little work to do
 - a serious family problem
 - work that is repetitive and boring
 - introduction of a new organizational structure

Section B**[50 marks]**

1. Distinguish between statutory and non-statutory medical examination, and in each case indicate why these are carried out. [4 marks]

2. Explain in your own words each of the following responses of the body to toxic substances:
 - (a) acute effects [2 marks]
 - (b) delayed acute effects [2 marks]
 - (c) chronic effects [2 marks]

3. Explain the difference between fumes and mists in the work environment. [4 marks]

4. Although not a route of entry of toxins, the circulatory system is responsible for the distribution of hazardous chemical substances. Mention any **three** functions of the circulatory system, which are responsible for this. [3 marks]

5. Contrast non-fibrogenic dusts with fibrogenic dusts and briefly explain in what way the two are hazardous to the worker. [8 marks]

6. Define baseline and periodic audiometry, and briefly explain the purpose of each. [4 marks]

7. Suggest any **four** general requirements of lightings at the workplaces. [4 marks]

8. Explain in your own words why each one of the following is a factor that contributes to fire hazards in the workplace.
 - (a) poor housekeeping [2 marks]
 - (b) accumulation of rubbish in the premises [2 marks]
 - (c) poor stacking practices [2 marks]

9. Why should material used to protect the skin e.g. gloves or overalls be suitable for purpose and carefully chosen? [6 marks]

10. Suggest any **five** situations where an employer is not liable to pay compensation. [5 marks]

Section C**[40 marks]**

Answer **any two** of the following questions. Your response should be in essay form. Support your argument with typical examples from occupations in Botswana.

1. Identify any **two** types of ventilation from natural ventilation, and two from artificial ventilation, and:

- (a) give a brief description of each
- (b) explain its significance in the workplace
- (c) briefly discuss the hazards associated with a poorly ventilated workplace

[20 marks]

2. Write an essay on work-related stress, paying special attention to the following aspects:

- (a) definition of stress and health problems associated with it
- (b) causes and early warning signs of stress
- (c) ways of avoiding stress

[20 marks]

3. Discuss an accident or incident investigation under the following sub-headings:

- (a) objectives of investigation
- (b) the circumstances for which an investigation is conducted
- (c) procedures followed when conducting an investigation

[20 marks]

END OF EXAMINATION