

2404/306

2407/306

2411/306

LABORATORY PRACTICE AND MANAGEMENT

Oct./Nov. 2016

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**DIPLOMA IN APPLIED BIOLOGY
DIPLOMA IN MEDICAL LABORATORY TECHNOLOGY
DIPLOMA IN ANALYTICAL CHEMISTRY**

LABORATORY PRACTICE AND MANAGEMENT

3 hours

INSTRUCTIONS TO CANDIDATES

This paper consists of TWO sections; A and B.

Answer ALL the questions in section A and any THREE questions from section B in the answer booklet provided.

Each question in section A carries 4 marks while each question in section B carries 20 marks.

Maximum marks for each part of a question are indicated.




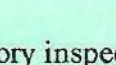
Candidates should answer the questions in English.

This paper consists of 3 printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

SECTION A (40 marks)

Answer ALL the questions in this section.

- ✓ 1. (a) Explain how demineralization is achieved by the regeneration deionizer. (2 marks)
Principle of deionization - when water is passed through a charged resin, they charged nitrogen are attracted to the -vely charged resin as they knock it.
- (b) How is the resin of the above deionizer recharged? (2 marks)
NaOH - neg. HCl + e.
2. Describe the **four** classes of fire risks. (4 marks)
3. By use of a diagram, illustrate the standard warning signs that appear on the label of each the following chemicals:
- (a) flammables;  (1 mark)
- (b) oxidizing;  (1 mark)
- (c) corrosive;  (1 mark)
- (d) toxic.  (1 mark)
4. Outline the laboratory inspection and maintenance of the safety apparatus in the laboratory. (4 marks)
5. Differentiate between anaesthesia and euthanasia. (4 marks)
6. State **four** darkroom precautions. (4 marks)
7. Explain how a T-piece can be made in a glass blowing laboratory. (4 marks)
8. (a) State **two** uses of cryogenics. *fertilizers, fuel & gas, oxygen.* (2 marks)
- (b) What are dewar vessels? (2 marks)
9. State the steps and the purpose of the control function in management. (4 marks)
10. Explain any **two** factors that management should consider during performance appraisal. (4 marks)

SECTION B (60 marks)

Answer any **THREE** questions from this section.

11. (a) Discuss the sitting and orientation of a balance room. (10 marks)
- (b) Describe the following materials used for laboratory floor surfaces:
- (i) wood; (5 marks)
 - (ii) terrazzo. (5 marks)
12. (a) Describe protection against the various types of radiation hazards. (6 marks)
- (b) Explain the proper storage and disposal of inflammable liquids. (14 marks)
13. Explain the functions of each of the following items in film projection:
- (a) projector gate; (8 marks)
 - (b) intermittent; (7 marks)
 - (c) film loops. (5 marks)
14. Outline Henri Fayol's principles of effective management. ✓ (20 marks)
15. (a) Describe the following documents used in purchasing:
- (i) order form; (4 marks)
 - (ii) invoice. (5 marks)
- (b) Describe the **three** styles of leadership. (11 marks)

- unity of command.
- unity of direction.
- centralization & decentralization.
- remuneration of employees.
- Equity.
- scalar chain

- Subordination.
- ~~Primary~~ general interest over individual interest.
- ~~Self~~ Initiatives
- Authority & Responsibility.
- Specialization.

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