

2404/306

2407/306

2411/306

**LABORATORY PRACTICE
AND MANAGEMENT**

June/July 2019

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

You should have the following for this examination:

Answer booklet;

Scientific calculator (battery operated).

This paper consists of TWO sections: A and B.

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

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.

*Alumina glass
Not easily fractured by water*

1. State any **four** advantages of borosilicate glass for laboratory glassware. (4 marks)
2. Draw a labelled diagram of a diamond glass cutter. (4 marks)
3. Describe operation of foam type of fire extinguisher. (4 marks)
4. (a) Define the term "dose" as used in radiation. (1 mark)
(b) State any **three** types of monitors used to measure radiation. (3 marks)
5. Describe chemical cleaning of glassware contaminated with coagulated organic matters. (4 marks)
6. Describe first aid treatment of chemical eye burn. (4 marks)
7. Explain the storage of poisonous chemicals in the laboratory. (4 marks)
8. State any **four** laboratory safety habits observed by laboratory workers. (4 marks)
9. Describe how keystone effects can be eliminated in a projector. (4 marks)
10. Name any **four** disadvantages of numerical filing. (4 marks)

SECTION B (60 marks)

Answer any THREE questions from this section.

11. (a) Highlight any **five** advantages and **two** disadvantages of glazed fine clay as material for construction of laboratory sinks. (7 marks)
(b) Describe double lens camera as used in photography. (13 marks)
12. (a) Describe the care of an electronic balance. (10 marks)
(b) Explain advantages of East-West orientation of laboratory. (4 marks)
(c) Outline the procedure of intraperitoneal inoculation of laboratory mice. (6 mark)

13. (a) Explain any **three** principles of Scientific Management in the school of thought. (6 marks)
- (b) Highlight any **four** disadvantages of Scientific Management. (4 marks)
- (c) Highlight any **three** advantages and any **two** disadvantages of diffusion pump. (5 marks)
- (d) State any **five** safety precautions that should be observed before evacuating air from desiccators. (5 marks)
14. (a) Describe the construction of a rabbit cage. (10 marks)
- (b) Describe disposal of chemical waste in the laboratory. (10 marks)
15. (a) Highlight any **six** benefits of control process in an organisation. (12 marks)
- (b) Explain **four** types of stock level of inventory. (8 marks)

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