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Name: _____

Index No: _____ /

2404/306

2407/306

2411/306

LABORATORY PRACTICE
AND MANAGEMENT

Oct./Nov. 2015

Time: 3 hours

Candidate's Signature: _____

Date: _____



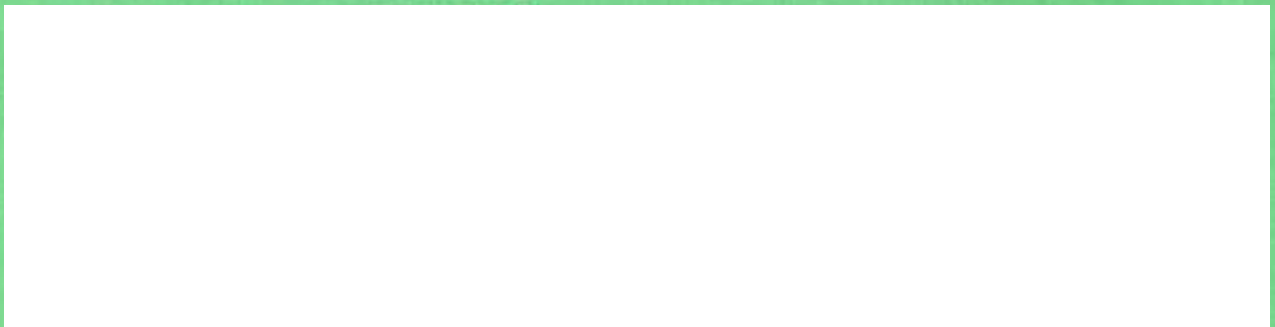
THE KENYA NATIONAL EXAMINATIONS COUNCIL

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

LABORATORY PRACTICE AND MANAGEMENT

3 hours

INSTRUCTIONS TO CANDIDATE



For Examiner's Use Only

SECTION A

| Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | TOTAL SCORE |
|-------------------|---|---|---|---|---|---|---|---|---|----|-------------|
| Candidate's Score | | | | | | | | | | | |

SECTION B

| Question | 11 | 12 | 13 | 14 | 15 | TOTAL SCORE |
|-------------------|----|----|----|----|----|-------------|
| Candidate's Score | | | | | | |

Grand Total

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This paper consists of 16 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 in the spaces provided.

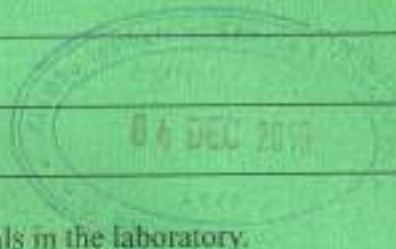
1. List **four** methods of dismantling a jammed quick fit set. (4 marks)



2. Explain how a glass bottle heavily contaminated with chemical stains can be cleaned. (4 marks)

3. Explain how a dropping pipette can be made from a glass tubing of 20 cm long and 10 mm in diameter. (4 marks)

4. Outline how a dirty laboratory animal cage tray can be cleaned. (4 marks)



5. Describe a proper mode of storing corrosive chemicals in the laboratory. (4 marks)

6. (a) Explain any two ways of prolonging the life span of an accumulator. (2 marks)

(b) Explain how an oven can be installed in a glass blowing room. (2 marks)

7. Explain how the following solutions are prepared in the laboratory:

(a) 5% v/v ethanol solution in 500 cm³ volumetric flask; (2 marks)

- (b) 0.5 M sodium hydroxide solution in 250 cm³ volumetric flask. (2 marks)
Na = 23, H = 1, O = 16



8. State the use of the following store documents:

- (a) letter of credit; (1 mark)

- (b) credit note; (1 mark)

- (c) package note; (1 mark)

- (d) debit note. (1 mark)

9. State any **four** advantages of delegation in an organization. (4 marks)

10. Distinguish between demulcents and emetics. (4 marks)

SECTION B (60 marks)

Answer any **THREE** questions from this section in the spaces provided after question 15.

11. (a) Describe the method for testing the suitability of photographic darkroom. (7 marks)
- (b) Explain all the movements that can be imparted to the technical camera. (10 marks)
- (c) State the role of the following chemicals in black and white photographic developer:
- (i) potassium bromide; (1 mark)
- (ii) sodium carbonate; (1 mark)
- (iii) hydroquinone. (1 mark)
12. (a) Define the following:
- (i) critical backing pressure; (2 marks)
- (ii) pumping speed. (2 marks)
- (b) Describe how a gas plug can be removed in a dewar vessel. (3 marks)
- (c) Explain how to detect leak in vacuum system using overpressure methods. (13 marks)

13. (a) State:
- (i) any **five** advantages of Management by Wondering Around (MBWA); (5 marks)
 - (ii) any **five** disadvantages of management by Wondering Around (MBWA). (5 marks)
- (b) Outline any **five** factors which facilitate effective control systems. (10 marks)
14. (a) Explain any **three** methods of settling trade disputes. (9 marks)
- (b) State **four** methods used by workers to present grievances. (4 marks)
- (c) Outline factors which lead to redundancy. (7 marks)
15. (a) Explain any **four** situations when electricity can initiate labor fire. (8 marks)
- (b) Classify fire risks and explain how each class can be extinguished. (12 marks)

