



# TECHNICAL UNIVERSITY OF MOMBASA

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Faculty of applied and health sciences

## DEPARTMENT OF PURE AND APPLIED SCIENCES UNIVERSITY EXAMINATION FOR:

DIPLOMA IN ANALYTICAL CHEMISTRY (DAC14S)

AAB 2105 BIOLOGY –II

### END OF SEMESTER EXAMINATION

**SERIES: April 2016** PAPER-A

**TIME: 2 HOURS**

**DATE: MAY 2016**

#### Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose No questions. Attempt Choose instruction.

**Do not write on the question paper.**

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#### QUESTION ONE

- |  |         |
|--|---------|
| (a)(i) Name TWO characteristics of Division schizophyta (bacteria) | 2 marks |
| (ii) List the phylums which belongs to Protista II Kingdom         | 2 marks |
| (b)(i) Name classes of Bryophyta Division                          | 3 marks |
| (ii) List TWO Nematodes  | 1 mark  |
| (c)(i) Explain the meaning of closed circulatory system            | 2 marks |
| (ii) State factors which affect diffusion                          | 2 marks |
| (d) (i) List TWO types of excretory organs found in animals        | 2 marks |
| (ii) Name the major parts of the brain                             | 2 marks |
| (e) Differentiate between skeletal and visceral muscles            | 4 marks |
| (f) Name regions of the vertebral column                           | 4 marks |
| (g) Explain the meaning of the following;                          |         |
| (i) Primary consumers  | 1 mark  |
| (ii) Secondary consumers   | 1 mark  |
| (iii) Tertiary consumers   | 1 mark  |
| (vi) Quaternary consumers  | 1 mark  |
| (h) Name TWO heart disease   | 2 marks |

#### QUESTION TWO

- |  |         |
|--|---------|
| (a) Explain how the autotrophic primary producers support ecosystems | 8 marks |
| (b) Draw a well labeled diagram of human heart                       | 7 marks |

**QUESTION THREE**

(a) Explain the mechanism of inspiration

7 marks

(b) Describe the structure of a neuron

8 marks

**QUESTION FOUR**

(a) Explain the mechanism of muscle contraction

8 marks

(b) Describe the concentration of urine in the tubules

7 marks

**QUESTION FIVE**

(a) Explain homeostatic control of blood glucose concentration

7 marks

(b) Explain the ovarian cycles

8 marks



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#### QUESTION ONE

- (a)(i) State TWO characteristics of Moneran Kingdom 2 marks  
(ii) List TWO characteristics of prozoa II Kingdom 2 marks
- (b)(i) State TWO characteristics of Division pteridophyta 2 marks  
(ii) List TWO characteristics of class Arachnida 2 marks
- (c) Explain the following types of heterotrophic nutrition;  
(i) Holozoic nutrition 1 mark  
(ii) Saprobiontic/saprotrophic 1 mark  
(iii) Parasitism 1 mark  
(iv) Carnivorous 1 mark
- (d)(i) List TWO techniques for measuring heart diseases 2 marks  
(ii) Differentiate between a food chain and food web 2 marks
- (e) Outline the steps of respiration 4 marks
- (f) State the function of the following;  
(i) Somatic nervous system 2 marks  
(ii) Autonomic nervous system 2 marks
- (g) (i) Classify muscles based on their location 3 marks  
(ii) Name parts which comprises hindbrain 1 marks
- (h) State TWO functions of osmoreceptors in the body 2 marks

#### QUESTION TWO

- (a) Explain pulmonary blood circulation 7 marks  
(b) Explain the mechanism of expiration 8 marks

#### QUESTION THREE

- (a) Describe the formation of urine 8 marks  
(b) Explain homeostatic control of body temperature 7 marks

#### QUESTION FOUR

- (a) Draw a neat well labeled diagram of a nephron 7 marks  
(b) Explain the mechanism of a reflex action 8 marks

#### QUESTION FIVE

- (a) Describe the process of facilitated diffusion 7 marks  
(b) Explain function of the kidney tubules 8 marks