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(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER SPECIAL/SUPPLEMENTARY EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF AGRICULTURE EDUCATION

COURSE CODE: ESM 111

COURSE TITLE: FUNDAMENTALS OF BIOLOGY 1

DATE: 18/09/2017

TIME: 8:00 – 10:00 A.M.

INSTRUCTIONS TO CANDIDATES

Answer question **ONE** [1] and **ANY** other **TWO** [2] questions

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

1. Question 1

a). **Define** the following terms as used in biology

- i). Biosynthesis (4 MARKS)
- ii). Oxidation (2 MARKS)
- iii). Autotrophs (3 MARKS)
- iv). Isotopes (2 MARKS)

b). Using examples, **Explain** three types of carbohydrates (9 MARKS)

c). **State** the main differences between DNA and RNA (6 MARKS)

e). **Give** any four common genetic features of living organisms (4 MARKS)

2. Question 2

a). **Explain** how cellular level part of energy that is obtained from nutrients is utilized to

- i) Synthesize new cellular components (4 MARKS)
- ii). Support existing functions (6 MARKS)

b) Explain how energy flows through ecosystems in an environment (10 MARKS)

3. Question 3

Using diagrams **Explain how** various body symmetries of living organisms differ from each other (20MARKS)

4. Question 4

Discuss the taxonomic units of classification citing appropriate examples (20MARKS)

5. Question 5

Discuss the main types of adaptations of living organisms in an environment (20MARKS)