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*(Knowledge for Development)*

# **KIBABII UNIVERSITY**

## **UNIVERSITY EXAMINATIONS 2017/2018 ACADEMIC YEAR**

### **FOURTH YEAR FIRST SEMESTER MAIN EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF SCIENCE AGRICULTURE,  
EDUCATION**

**COURSE CODE:** SBT 411

**COURSE TITLE:** PLANT BIOCHEMISTRY

**DATE:** 19<sup>th</sup> December 2017

**TIME:** 3:00 – 5:00 p.m.

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#### **INSTRUCTIONS TO CANDIDATES**

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

1. (a) (i) State two ways through which nicotinamide adenine dinucleotide can be generated for the glycolysis process. (2 marks)
  - (ii) Explain the fate of pyruvate after the glycolysis process. (3 Marks)
  - (iii) Describe oxidative phosphorylation in plant cells. (5 marks)
  
  - (b) (i) Name the two classes of carotenoids. (2 marks)
  - (ii) Differentiate between saturated and unsaturated fatty acids giving an example in each case. (4 Marks)
  - (iii) Describe glycolipids stating their functions in living organisms. (4 Marks)
  
  - (c) (i) List three major storage polysaccharides found in living organisms. (3 Marks)
  - (ii) Outline the major phases of the carbon reduction reactions. (3 marks)
  - (iii) Draw a well labelled diagram of the chloroplast. (4 marks)
2. Describe the process of Aerobic respiration. (20 marks)
  3. Discuss symbiotic nitrogen fixation. (20 marks)
  4. Describe the phases of protein biosynthesis. (20 marks)
  5. Discuss the photochemical reactions of photosynthesis. (20 marks)