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**W1-2-60-1-6**

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

# **UNIVERSITY EXAMINATIONS 2016/2017**

FIRST YEAR SPECIAL/SUPPLEMENTARY EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOTECHNOLOGY/BIOLOGICAL SCIENCE

**SBT 2102: PLANT FUNCTION**

**DATE: SEPTEMBER 2017 TIME: 2 HOURS**

**INSTRUCTIONS:**

**ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS**

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**QUESTION ONE [30 MARKS]**

1. Distinguish between the following:-
2. Diffusion and mass flow [3 marks]
3. Aerobic and anaerobic respiration [3 marks]

1. Explain the following observations:
2. When Bean/pea seeds are immersed in water they swell [2 marks]
3. Droplets of water ooze from leaf tips and leaf margins for certain plant species at night [2 marks]
4. Soil rich in mineral salts is physiologically dry [2 marks]
5. Name 5 unique properties of water [5 marks]
6. State 5 differences between transpiration and guttation [5 marks]
7. (i)RQ=0 in plants means what? [3 marks]

(ii)What information can be deduced from RQ values? [3 marks]

1. State any 3 properties of catalyses enzymes [3 marks]

**QUESTION TWO [20 MARKS]**

Collaoidal systems have many properties. Discuss. [20 marks]

**QUESTION THREE [20 MARKS]**

Outline and experiment that shows seedlings develop deficiency symptoms

when grown in cultures where some elements are omitted [20 marks]

**QUESTION FOUR [20 MARKS]**

Discuss factors influencing opening and closing of stomata. [20 marks]