

P530/2  
BIOLOGY PAPER 2  
JUNE 2016  
2 ½ Hours

## DEPARTMENT OF BIOLOGY

MOCK 1 EXAMINATIONS, JUNE 2016

S.6 BIOLOGY PAPER 2

TIME: 2½ HOURS

### INSTRUCTIONS

- Answer question **one** in Section A and any **three** other questions in Section B.
- Be neat and orderly.

### FOR EXAMINERS'S USE ONLY

QUESTION:	MARKS:
1	
2	
3	
4	
5	
6	

<b>TOTAL</b>	
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**SECTION A (40 MARKS)**

1. A group of students studied an abandoned maize field regarding changes in the plant and animal community in the area over time. Study the figure and answer the questions that follow.

- (a) Using your biological knowledge and information from the figure above, describe the changes in the number of species, biomass and net productivity in the area. (08mks)
- (b) Explain how the number of plant species, biomass and net productivity are related. (08mks)
- (c) (i) Name the process illustrated in the figure above. (01mk)  
(ii) What is the stage of the process at 150 years? (01mk)  
(iii) Outline the characteristics of the stage named in c(ii) above. (06mks)
- (d) Account for the change in the number of plant and animal species between

0 and 40 years. (10mks)

- (e) Suggest any three factors that can interrupt the process of change illustrated and state how each factor affects the process. (06mks)

**SECTION B (60 MARKS)**

2. (a) (i) What is a hormone? (03mks)  
(ii) Outline the differences and similarities between hormonal and enzyme activity. (07mks)  
(b) Explain how hormones work in order to bring about changes in the body? (10mks)
3. (a) Explain why animals need to excrete waste products of metabolism from their bodies. (08mks)  
(b) Describe the process of excretion of uric acid in an insect's malpighian tubule. (08mks)  
(c) How is the malpighian tubule suited for the process of excretion of uric acid? (04mks)
4. (a) What is meant by negative feedback mechanism? (02mks)  
(b) Describe the role of negative feedback mechanism in the regulation of blood pressure. (18mks)
5. (a) Giving two examples, explain what is meant by discontinuous variation. (04mks)  
(b) Discuss how meiosis leads to variation in sexually reproducing organisms. (10mks)  
(c) Give the differences between continuous and discontinuous variation. (06mks)
6. (a) Give three differences between transcription and translation. (03mks)  
(b) Describe the process of translation in a cell. (17mks)

**END**