

Biology June paper 2, 2017

INSTRUCTIONS: ANSWER ALL FIVE QUESTIONS (TWO HOURS)

1. (a) State the characteristics of living organisms. (7 marks)
(b) Describe reproduction in Amoeba under favorite conditions (2 marks)
(c) How does an Amoeba feed? (6 marks)
(d) Describe what will happen if a marine Amoeba is put in fresh water (5 marks)
(Total = 20 marks)
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2. (a) State the compositions of blood in mammals (2 marks)
(b) How is blood important in mammals? (10 marks)
(c) How is transport carried out in plants? (8 marks)
(Total = 20 marks)
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3. (a) Define the term irritability (4 marks)
(b) Draw a large labelled diagram of the mammalian skin (10 marks)
(c) Explain what happens when a shoot is illuminated from one direction (6 marks)
(Total = 20 marks)
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4. (a) Draw a large labelled diagram of the longitudinal section of the mammalian kidney (6 marks)
(b) the table shows the quantities of various substances in blood plasma and urine.

Substances	Plasma	Urine
Glucose	200g	Trace
Sodium salts	600g	6g
Urea	60g	35g
Water	180litres	1.2litres

Account for the differences in the quantities of the various substances in plasma and urine (9 marks)

- (c) carbon dioxide is an excretory product. How is the percentage composition of carbon dioxide kept constant in the atmosphere? (5 marks)

(Total = 20 marks)

5. (a) Define the following terms as used in environmental biology:
(i) Environment
(ii) Pollution (5, 4 marks)
(b) Differentiate between a food chain and a food web. (6 marks)
(c) State the uses of food in living organisms (5 marks)
(Total = 20 marks)