

S 6 WEEKLY BIOLOGY ECOLOGY /04/05/2020

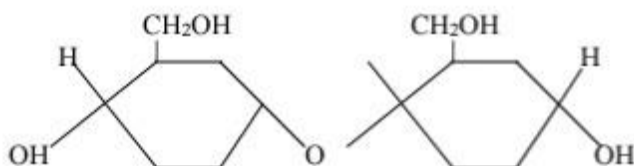
1. (a) Table 1 shows variation in the rate of decomposition of discs of oak leaves in mesh bags of different sizes with depth below the soil surface in a forest habitat. Study it carefully and answer the questions that follow.

Depth(cm)		1	2	3	4	5	6	7	8	9	10
% decomposition	7mm mesh bags	95	80	65	50	35	26	8	2	0	0
	0.5mm mesh bags	40	35	20	10	6	3	1	0	0	0

- (i) On the same axes, represent the information on a suitable graph. **(10 marks)**
- (ii) Describe the effect of depth below the soil surface on the rate of decomposition of leaf discs in 0.5mm mesh bags. **(03 marks)**
- (iii) Explain the relationship between soil depth and rate of decomposition of leaf discs of oak leaves. **(10 mark)**
- (iv) What is the ecological significance of leaf decomposition in an ecosystem? **(05marks)**

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2. The carbohydrate illustrated below has been formed from two hexose sugars.



- (a) Name the
 - (i) hexose sugar from which the carbohydrate above was formed. **(1mark)**
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 - (ii) type of carbohydrate formed above. **(1mark)**
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 - (iii) chemical bond, **W** which joins the two hexose sugar units above. **(1mark)**
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 - (iv) chemical reaction in which the carbohydrate above has been formed. **(1mark)**
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(b) Outline **three** sources from which the carbohydrate formed above can be obtained. **(1½ marks)**

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(c) Explain how sodium hydrogen carbonate acts as a pH buffer. **(4½ marks)**

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