

Factors affecting Gene Expression

Question Paper

Level	A Level
Subject	Biology
Exam Board	Edexcel
Topic	Modern Genetics
Sub Topic	Factors affecting Gene Expression
Booklet	Question Paper

Time Allowed: 47 minutes

Score: /39

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	'77.5%	70%	62.5%	57.5%	45%	<45%

- (h) ‘Instead of one variable species’ (paragraph 44), Evans, Hughes and Elliot have identified four new species of the fungus.

Suggest how these could have been identified as separate species.

(4)

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- (i) There is evidence showing that ants parasitised by the fungus bite the main veins of leaves (paragraphs 35 and 47).

Suggest the advantages to the zombie fungus of this ant behaviour.

(2)

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(Total for Question 1 = 30 marks)

* (b) Sex determination in *Drosophila* (fruit fly) is controlled by the *Sxl* gene that codes for the Sxl protein. The *Sxl* gene is the same in female and male *Drosophila*.

The length of the protein in the female *Drosophila* is different from the length of the protein in the male *Drosophila*.

Suggest how the same *Sxl* gene can give rise to these different proteins.

(6)

(Total for Question 2 = 9 marks)