AQA, OCR, Edexcel

GCSE Science

GCSE Biology

Genetic Engineering Answers

Name:

M M E

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Total Marks: /20

Q1: What is genetic engineering?

A= Modification of the genetic material of an organism

(1 mark)

Q2: Give an example of engineered bacteria that are used for human health.

A= Accept one of the following:

- Insulin
- Human growth hormone

(1 mark)

Q3: Explain why genetically engineered mice are essential to human cancer research.

A= Accept any 4 of the following:

- Modified to have human genes
- Can do early stage testing
- Allow human tissues to grow in mice
- Scientists can learn more about the disease
- Test new treatments

(4 marks)

Q4: Discuss the ways plants have been modified.

A= accept any 3 of the following:

- Increase yield
- Resistant – Disease
- Resistant – Insect attack
- Increased nutritional value

(3 marks)

Q5: Why are genetically modified crops important?

A= Accept one of the following:

- Ease food burden
- Provide food security

(1 mark)

Q6: How could scientists genetically modify plants to aid the efforts to reduce global warming?

A= Increase uptake of CO_2

(1 mark)

Q7: What future technology could genetic engineering provide to aid human health?

A= Wipe out some diseases

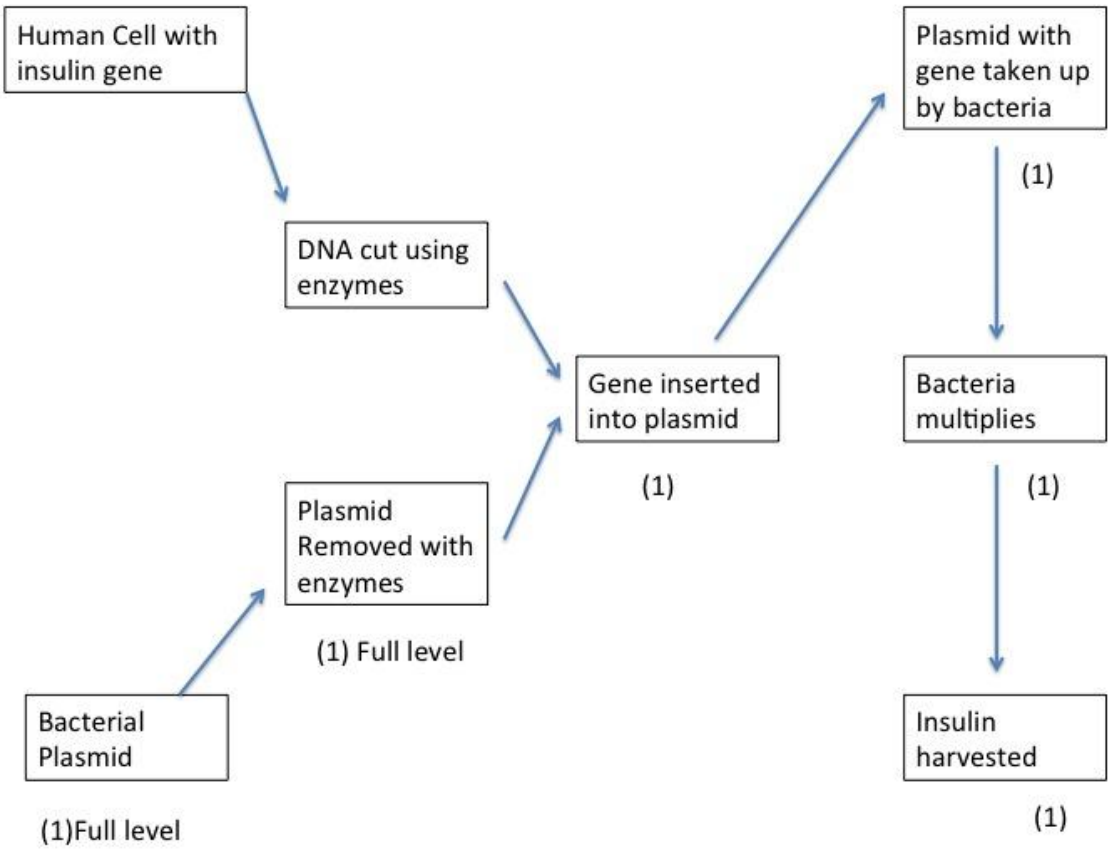
(1 mark)

Q8: What trait from jellyfish have scientists extracted for use in genetic engineering?

A= Fluorescence

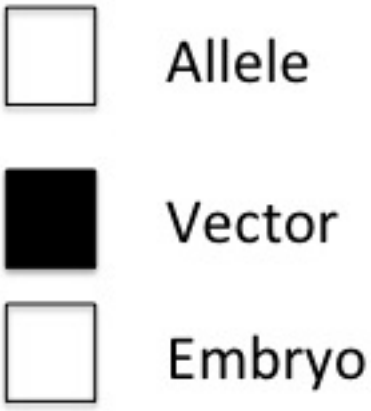
(1 mark)

Q9: Create a flow chart to show the process of transferring the insulin gene using a bacterial plasmid.



(6 marks)

Q10: What are genes inserted into when using bacterial cells to replicate?



(1 mark)