

Viruses

Question Paper 1

Level	A Level
Subject	Biology
Exam Board	Edexcel
Topic	Cells & Viruses and Reproduction of Living Things
Sub Topic	Viruses
Booklet	Question Paper 1

Time Allowed: 54 minutes

Score: /45

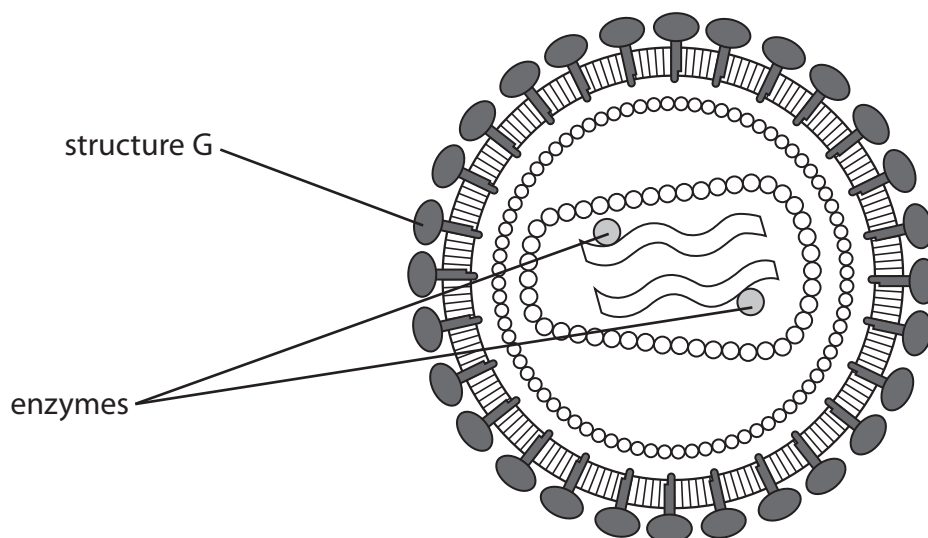
Percentage: /100

Grade Boundaries:

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

- 1 Anti-viral drugs have been developed to treat patients infected with Human Immunodeficiency Virus (HIV).

The diagram below shows the structure of HIV.



- (a) Explain how **structure G** enables HIV to infect human cells.

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(b) Some anti-viral drugs used to treat patients infected with HIV are inhibitors of enzymes found within HIV.

(i) Describe the structure of an enzyme.

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*(ii) Suggest how these anti-viral drugs would work in the treatment of patients infected with HIV.

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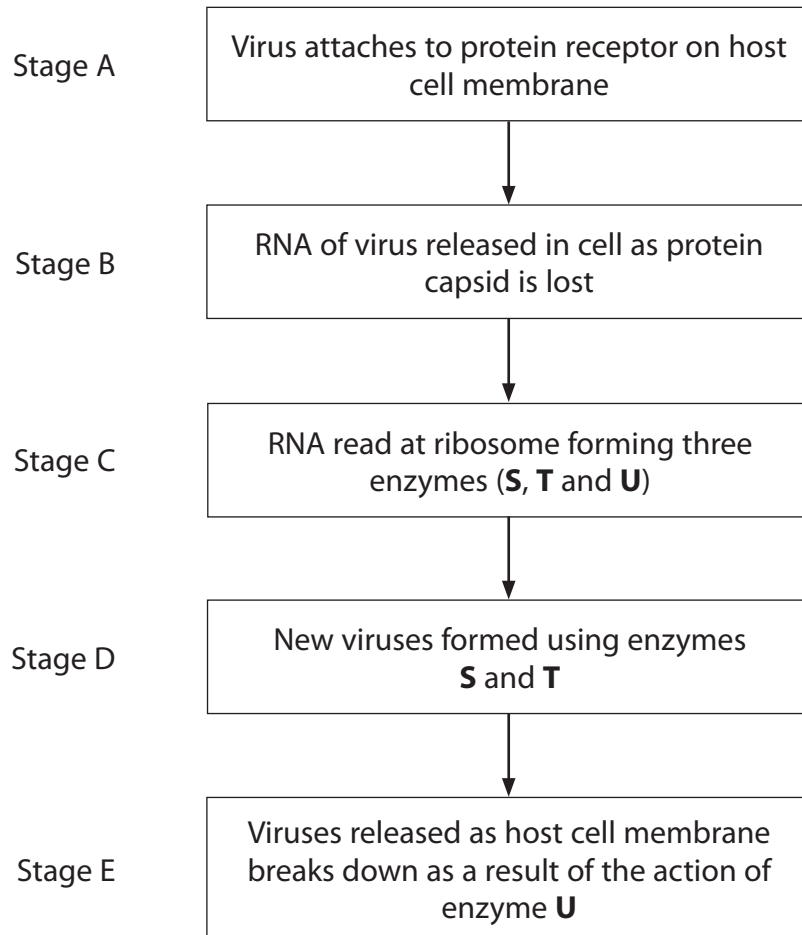
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2 The common cold is a disease caused by a variety of viruses.

The flow diagram below describes how common cold viruses attack the cells on the inside of the nose.



(a) Common cold viruses infect only the cells inside the nose.

(i) Suggest why common cold viruses cannot infect cells if they land on unbroken skin.

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(ii) Suggest why common cold viruses cannot infect cells if they enter the blood through a cut in the skin.

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(b) Compare the action of the RNA in the common cold virus with that found in HIV.

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(c) At Stage C, three enzymes are formed.

(i) Suggest why two of these enzymes, **S** and **T**, are needed at Stage D.

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(ii) Suggest how enzyme **U** might catalyse the breakdown of the host cell membrane at Stage E.

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(Total for Question 2 = 11 marks)

(ii) Suggest why so few viral particles are enough to cause symptoms after 24 hours.

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(iii) The risk of transmitting food poisoning microorganisms can often be reduced by using alcohol-based handwashes.

Suggest why alcohol-based handwashes do **not** reduce transmission of the norovirus.

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(Total for Question 3 = 11 marks)

