



General Certificate of Secondary Education

GCSE History

Specification A

Unit 4 Option A Medicine Through Time

Specimen Mark Scheme

Version for 2013 onwards (including Spelling, Punctuation and Grammar)

The specimen assessment materials are provided to give centres a reasonable idea of the general shape and character of the planned question papers and mark schemes in advance of the first operational exams.

Further copies of this Mark Scheme are available to download from the AQA Website: www.aqa.org.uk

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GENERAL CERTIFICATE OF SECONDARY EDUCATION
HISTORY SPECIFICATION A

A: INTRODUCTION

- **Consistency of Marking**

Consistency of marking is of the essence in all public examinations. This factor is particularly important in a subject like History which offers a choice of specifications and a choice of options within them. It is therefore of vital importance that assistant examiners apply this marking scheme as directed by the Principal Examiner in order to facilitate comparability with the marking of all the other History specifications and options offered by the AQA.

- **Subject Content**

The revised specification addresses subject content through the identification of ‘key questions’ which focus on important historical issues. These ‘key questions’ give emphasis to the view that History is concerned with the analysis of historical problems and issues, the study of which encourages all candidates, but particularly the more able, to make judgements grounded in evidence and information.

- **The Assessment Objectives (AOs)**

Assessment Objectives		% weighting
AO1	Recall, select and communicate their knowledge and understanding of history	30
AO2	Demonstrate their understanding of the past through explanation and analysis of: <ul style="list-style-type: none"> • key concepts: causation, consequence, continuity, change and significance within an historical context • key features and characteristics of the periods studied and the relationship between them 	30
AO3	Understand, analyse and evaluate: <ul style="list-style-type: none"> • a range of source material as part of an historical enquiry • how aspects of the past have been interpreted and represented in different ways as part of an historical enquiry 	40

Levels of Response Marking Schemes

The mark scheme which follows is of the ‘levels of response’ type showing that candidates are expected to demonstrate their mastery of historical skills in the context of their knowledge and understanding of History. All candidates take a common examination paper – there is no tiering. Consequently, it is reasonable to expect to encounter the full range of attainment and this marking scheme has been designed to differentiate candidates’ attainment by **outcome** and to reward **positively** what the candidates know, understand and can do.

Before scrutinising and applying the detail of the specific mark scheme which follows, assistant examiners are required to familiarise themselves with the instructions and guidance on the general principles to apply in determining into which level of response an answer should fall and in deciding on a mark within that particular level.

Good examining is, ultimately, about the **consistent application of judgement**. This mark scheme provides the necessary framework for exercising that judgement but it cannot cover all eventualities. This is especially so in a subject like History, which in part relies upon different interpretations and different emphases given to the same content.

B: QUESTION TARGETS & LEVELS OF RESPONSE

- **Question Targets**

The mark scheme for each question is prefaced by an assessment objective 'target'. This is an indication of the skill which it is expected candidates will use in answering the question and is directly based on the relevant assessment objectives. However, it does not mean that other answers which have merit will not be rewarded.

- **Identification of Levels of Response**

There are several ways in which any question can be answered – in a simple way by less able candidates and in more sophisticated ways by candidates of greater ability. In the marking scheme different types of answers will be identified and will be arranged in a series of levels of response.

Levels of response have been identified on the basis that the full range of candidates entered for the GCSE examination will be able to respond positively. Each 'level' therefore represents a stage in the development of the candidate's **quality of thinking**, and, as such, recognition by the assistant examiner of the relative differences between each level descriptor is of paramount importance.

- **Placing an answer within a Level**

When marking each part of each question, examiners must first place the answer in a particular level and then, and only then, decide on the actual mark within the level, which should be recorded in the margin. **The level of response attained should also be indicated at the end of each answer.** In most cases, it will be helpful to annotate the answer by noting in the margin where a particular level has been reached, eg Level 1 may have been reached on line 1, L3 on line 5 and L1 again on line 7. When the whole answer has been read and annotated in this way, the highest of the Levels **clearly attained** and **sustained** should be awarded. Remember that it is often possible to reach the highest level **without** going through the lower levels. Marks are **not cumulative** for any question. There should be no 'totting up' of points made which are then converted into marks. Examiners should feel free to comment on part of any answer if it explains why a particular level has been awarded rather than one lower or higher. Such comments can be of assistance when the script is looked at later in the awarding process.

If an answer seems to fit into two or more levels, award the higher or highest level.

- **What is a sustained response?**

By a **sustained response**, we mean that the candidate has **applied** the appropriate level of thought to the **particular issues** in the sub-question.

A response does not necessarily have to be sustained throughout the whole answer, but an answer in which merely a few words seem to show a fleeting recognition of historical complexity is not sufficient to attain a higher level.

In some cases, as you read an answer to a sub-question, it will be clear that particular levels have been reached at certain points in the answer. If so, remember to identify them in the margin as you proceed. At the end of the sub-question, award the highest level that has been sustained.

In other cases you may reach the end of the sub-question without having been able to pinpoint a level. In such cases, simply record the level awarded at the end of the sub-question.

C: DECIDING ON MARKS WITHIN A LEVEL

A particular level of response may cover a range of marks. Therefore, in making a decision about a specific mark to award, it is vitally important to think *first* of the **lower/lowest mark within the level**.

In giving more credit with the level, examiners should ask themselves several questions relating to candidate attainment. The more positive the answers, the higher should be the mark awarded. We want to avoid ‘bunching’ of marks. Levels mark schemes can produce regression to the mean, which should be avoided. At all times, therefore, examiners should be prepared to use **the full range of marks** available for a particular level and for a particular question. Remember – mark **positively** at all times.

Consider whether the answer is:

- precise in its use of supporting factual information.
- appropriately detailed.
- factually accurate.
- appropriately balanced, or markedly better in some areas than in others.
- set in the historical context as appropriate to the question.
- displaying appropriate **quality of written communication skills**.

Note about Indicative Content.

The mark scheme provides **examples of historical content** (indicative content) which candidates may deploy in support of an answer within a particular level. Do bear in mind that these are **only examples**; exhaustive lists of content are not provided so examiners might expect some candidates to deploy alternative information to support their answers.

This indicative content must **not** however determine the level into which an answer is placed; **the candidate’s level of critical thinking determines this**. Remember that the **number** of points made by a candidate may be taken into account only **after** a decision has been taken about the quality (level) of the response.

- **Some things to remember**

Mark positively at all times.

Do **not** be afraid to award maximum marks within a level where it is possible to do so. Do not fail to give a maximum mark to an appropriate answer because you can think of something (or the marking scheme indicates something) that **might** be included but which is missing from the particular response.

Do **not** think in terms of a model answer to the question. Every question should be marked on its merits.

As a general rule, give credit for what is accurate, correct or valid.

Obviously, **errors can be given no credit** but, at the same time, the existence of an error should not prejudice you against the rest of what could be a perfectly valid answer.

It is important, therefore, to use the full range of marks where appropriate.

Do not use half marks.

D: SOME PRACTICAL POINTS

- **Answers in note form**

Answers in note form to any question should be credited in so far as the candidate's meaning is communicated. You must not try to read things into what has been written.

- **Diagrams, etc**

Credit should be given for information provided by the candidates in diagrams, tables, maps etc, provided that it has not already been credited in another form.

- **Answers which run on to another sub-section**

If a candidate starts to answer the next sub-section in an earlier one, by simply running the answer on, give credit for that material in the appropriate sub-section.

- **Answers which do not fit the marking scheme**

Inevitably, some answers will not fit the marking scheme but may legitimately be seen as worthy of credit. Assess such answers in terms of the difficulty/sophistication of the thought involved. If it is believed that the 'thought level' equates with one of the levels in the marking scheme, award it a corresponding mark.

Make sure you identify such cases with an A (for alternative) in your sub-total, eg as B2A/3. Also write a brief comment to explain why this alternative has been awarded.

If in doubt, **always** telephone your Team Leader for advice.

- **The Final Mark Scheme**

The final mark scheme will be decided at the standardising meeting after full discussion of both the mark scheme and the scripts selected by the Principal Examiner for marking at the standardising meeting. At all stages, care will be taken to ensure that all candidates are treated fairly and rewarded for their positive achievements on the paper.

- **Post Standardising Meeting**

After the examiners' standardising meeting, examiners may encounter answers which do not fit the agreed mark scheme but which are worthy of credit. These should be discussed with the Team Leader over the telephone. Such answers should be assessed in terms of the difficulty/sophistication of the thought involved. If it is believed that the 'thought level' equates with one of the levels in the mark scheme, it must be awarded a corresponding mark, with a brief note provided on the script to explain why.

E: ASSESSMENT OF SPELLING, PUNCTUATION AND GRAMMAR

Spelling, punctuation and grammar will be assessed via question 1(d). Four marks will be allocated for Spelling, Punctuation and Grammar in this question. The performance descriptions are provided below.

High performance

(4 marks)

Candidates spell, punctuate and use the rules of grammar with consistent accuracy and effective control of meaning in the context of the demands of the question. Where required, they use a wide range of specialist terms adeptly and with precision.

Intermediate performance

(2-3 marks)

Candidates spell, punctuate and use the rules of grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a good range of specialist terms with facility.

Threshold performance

(1 mark)

Candidates spell, punctuate and use the rules of grammar with reasonable accuracy in the context of the demands of the question. Any errors do not hinder meaning in the response. Where required, they use a limited range of specialist terms appropriately.

The marks allocated for Spelling, Punctuation and Grammar will achieve a total weighting of 5% of the total marks for the qualification.

Paper 1: Medicine Through Time

Section A Public Health

Question 1

- (a)** What does **Source A** suggest about attitudes to public health in Roman times?
 Explain your answer using **Source A** and **your knowledge**. **4**
- Target: Knowledge and understanding applied to comprehend and draw an inference from an historical source (AO1/3)**
- Candidates either submit no evidence or fail to address the question **0**
- Level 1: Answers that select details from the source or show some knowledge of attitudes to public health in Roman times** **1**
 eg the Romans had very good baths.
- Level 2: Answers that draw an informed inference based on the source and/or own knowledge** **2-3**
 eg the Romans valued bathing and keeping people healthy.
- Level 3: Answers that develop a complex, informed inference based on the source and/or own knowledge** **4**
 eg the Romans had a great empire and therefore could afford these facilities. They had the organisation and engineers to construct them.

(b)	<p>What different attitudes to public health are suggested by Source B? Explain your answer using Sources A and B and your knowledge.</p>	6
	<p>Target: Knowledge and understanding applied to comprehend and draw inferences from two historical sources (AO1/2/3)</p> <p>Candidates either submit no evidence or fail to address the question</p>	0
	<p>Level 1: Answers that select details from source B eg Source B shows dirty streets and smoke.</p>	1-2
	<p>Level 2: Answers that provide a simple comparison based on the details of both sources eg the impression in Source A is that the Romans wanted to be clean but in B they are all dirty. OR Answers that may use both sources but provide an informed inference from one eg the impression in Source B is that no one cares about cleanliness or wants to stop people doing dirty things but in A they are all making sure they can be clean.</p>	3-4
	<p>Level 3: Answers that develop an understanding or draw informed inferences about attitudes based on the details of both sources eg in Source A the impression is one of wealth and providing baths for people even in a small village. The Romans built baths and sewers throughout the Empire but in Source B no one seems to want to clean up the town. People throw water out in the streets and waste goes straight down to the river.</p>	5-6

- (c) Why were there different attitudes to public health at these times?
 Explain your answer using **Sources A** and **B** and **your knowledge**. **8**
- Target: Explanation and understanding of the different ideas and attitudes and how they might change over time (AO1/2/3)**
- Candidates either submit no evidence or fail to address the question **0**
- Level 1: Answers that select details from sources**
OR
Answers that say how the sources are different
 eg they are different because A is based on archaeology and B is a modern artist's impression. **1-2**
 The answer demonstrates simple understanding of the rules of spelling, punctuation and grammar. It is generally coherent but basic in development.
- Level 2: Answers showing simple reasoning about different attitudes based on changes over time, place or author**
 eg Source A was written about a Roman settlement when there was a strong government in the Empire. The Romans took pride in the sanitation and sewerage. They had aqueducts. In the Middle Ages people did not care about cleanliness in towns and weak councils who did enforce the local regulations. **3-5**
 The answer demonstrates developed understanding of the rules of spelling, punctuation and grammar. It is reasonably well organised and presented in a clear and effective manner.
- Level 3: Answers showing developed reasoning about different attitudes based on changes over time, place or author**
 eg the Romans were very concerned to keep their army healthy. The army made the empire. Everywhere they conquered they built proper health facilities and baths and sewers. They had great engineers and were very practical. Source A is an impression of the Bath house. It shows their pride in the achievements. People today like to think that they have a long history. Source B shows a time after the Roman Empire. Much of their knowledge was lost during the Dark Ages. People in medieval England did not understand cleanliness or value it. There was still some good public health in the monasteries where the old books and literacy flourished. There keeping clean helped serve God, but the towns were dirty stinking places. The artist has shown that the local laws were often ignored and rarely enforced. None of the people in the town could see the point of paying for a clean up or wanted to risk the unpopularity of suggesting it. **6-8**
 The answer demonstrates developed understanding of the rules of spelling, punctuation and grammar. It is well organised with an appropriate form and style of writing. Some specialist vocabulary is used.

- (d) Study **Source C**.
Public health has improved at different times for different reasons. Why was this? **8**
Explain your answer using **Sources A, B and C** and **your knowledge**.
- Target: An understanding and evaluation of causation (AO1/2/3)**
- Candidates either submit no evidence or fail to address the question **0**
- Level 1: Answers that provide general statements, describe single factors or factual details about public health**
eg the governments try to tell people how to live better lives today. Health education is taught in schools. **1-2**
The answer demonstrates simple understanding of the rules of spelling, punctuation and grammar. It is generally coherent but basic in development.
- Level 2: Answers that comment briefly on several factors, to do with improvement in public health**
eg the government passes laws to make people healthier like the 1848 Public Health Act. Sometimes reformers like John Snow or Edwin Chadwick have an impact. Epidemics like Cholera in 1831 made people sit up and take notice. **3-4**
The answer demonstrates developed understanding of the rules of spelling, punctuation and grammar. It is reasonably well organised and presented in a clear and effective manner.
- Level 3: Answers that recognise and explain several factors to do with improvement in public health in specific detail**
eg there were many powerful reasons why public health improved. What people know about the causes of disease is important so germ theory after the 1860s made people realise that germs had to be kept out of the water supply. William Farr's work on the statistics of birth and death helped show who was dying and where and from what cause. The people who would take note were the government because they passed laws like the 1848 and 1875 Public Health Acts. These moves were considered right because they increased the efficiency of the work force. The Great Reform Act, 1832 increased the electorate and so too did the 1867 and 1884 Acts. **5-6**
The answer demonstrates developed understanding of the rules of spelling, punctuation and grammar. It is well organised with an appropriate form and style of writing. Some specialist vocabulary is used.
- Level 4: Answers that develop out of level 3 and evaluate the relative importance of individual factors or come to a summary assessment about the factors involved or provide details of the links between factors**
eg so the politicians had to be doing something to win votes. In the same way the Liberals passed reform laws 1906-1914 in part to take votes away from the young Labour party. Big events like the Plague in 1665 or Cholera in 1831 and 1865 emphasised to governments the need for action. These posters (Source C) are all a part of preventing illness and making people aware, so the spread of education in the C19th had that effect because it made the electorate better able to appreciate the political system and what was being done by their representatives. **7-8**
The answer demonstrates highly developed/ complex understanding of the rules of spelling, punctuation and grammar. It is well structured, with an appropriate form and style of writing. Specialist vocabulary is used effectively.

SPaG Spelling, Punctuation and Grammar (4 marks)

Threshold performance

Candidates spell, punctuate and use the rules of grammar with reasonable accuracy in the context of the demands of the question. Any errors do not hinder meaning in the response. Where required, they use a limited range of specialist terms appropriately.

1

Intermediate performance

Candidates spell, punctuate and use the rules of grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a good range of specialist terms with facility.

2-3

High performance

Candidates spell, punctuate and use the rules of grammar with consistent accuracy and effective control of meaning in the context of the demands of the question. Where required, they use a wide range of specialist terms adeptly and with precision.

4

Section B Surgery and Anatomy**Question 2**

(a) Choose **one** of the medical pioneers below.

- Andreas Vesalius
 - William Harvey
- 4**

What did he do?

Target: Understanding of the key features of the period (AO1)

Candidates either submit no evidence or fail to address the question **0**

Level 1: Answers that show recognition and simple understanding of the key feature mentioned in the question

Answers will show simple recognition of **either** Vesalius **or** Harvey
eg Vesalius wrote an important book about anatomy with many illustrations in it. **1-2**

Level 2: Answers that explain and show understanding in a broader context of the period

Answers will show knowledge of some distinctive features of the achievements or methods of **either** Vesalius **or** Harvey eg Vesalius wrote the first modern anatomical textbook, published in 1543. It was widely circulated throughout Europe. It was based on dissection and Vesalius believed that doctors should be trained through dissection. **3-4**

(b) Which of these medical pioneers contributed most to improved medical knowledge during the Renaissance:

- Andreas Vesalius 8
- William Harvey

Explain your answer.

Target: Evaluation and understanding of the key features of the period (AO1/2)

Candidates either submit no evidence or fail to address the question 0

Level 1: Describes the work of Vesalius and/or Harvey

eg Harvey investigated the circulation of the blood. He published a book about it in 1628.

The answer demonstrates simple understanding of the rules of spelling, punctuation and grammar. It is generally coherent but basic in development. 1-2

Level 2: Answers that comment briefly on both people in a simple comparison

eg Vesalius did his work on anatomy but Harvey made discoveries in physiology. They both published important books showing their work. Vesalius said Galen was wrong. Harvey proved that the blood circulated.

OR

Answers that consider one person's contribution to the Renaissance in depth

eg Harvey was important because he was using a very scientific approach to the study of physiology. He worked out that the blood circulated by experimentation, dissection and logic. Many people before him had tried to see how the blood system worked. Harvey got it right. His ideas were attacked and not accepted until the 1670s. Harvey's explanation of how blood circulated was brilliant. He had to guess that capillaries existed even though he could not see them at the time because a powerful enough microscope did not exist.

The answer demonstrates developed understanding of the rules of spelling, punctuation and grammar. It is reasonably well organised and presented in a clear and effective manner. 3-5

Level 3: Answers that explain and evaluate both people's contribution to the Renaissance in a comparison that is detailed

eg Harvey's methods were very logical. He eliminated other possibilities for what happened to the blood in the body. His findings were conclusive although they were attacked by other scientists and Galen's views did not immediately disappear. Harvey's methods of dissection and scientific experimentation are very much a part of the Renaissance with its emphasis on finding out for yourself and using original material such as the human body. Vesalius had an immense impact because he wrote a book that was based on his own research and dissection that transformed anatomical knowledge. He was most influential because he had the Emperor as patron, published a book with superb illustrations and was able to show how Galen had got it wrong. Harvey's discovery was not as important as Vesalius' work because no one could be treated in any better way but Vesalius created a new science of anatomy.

The answer demonstrates developed understanding of the rules of spelling, punctuation and grammar. It is well organised with an appropriate form and style of writing. Some specialist vocabulary is used. 6-8

Question 3

(a) Choose **one** of the historical periods below.

Ancient Egypt 4
 Ancient Rome

What anatomical knowledge and surgery was there at that time?

Target: Understanding of the key features of the period (AO1)

Candidates either submit no evidence or fail to address the question 0

Level 1: Answers that show recognition and simple understanding of the key feature mentioned in the question

Answers will show simple recognition of **either** Ancient Egypt **or** Ancient Rome 1-2
 eg In Egypt they knew about the heart and vessels that connected organs.

Level 2: Answers that explain and show understanding in a broader context of the period

Answers will show knowledge of some distinctive features of anatomy and surgery in **either** Ancient Egypt **or** Rome. 3-4
 eg Galen knew that the brain controlled the body through the nerves. He wanted to dissect human bodies as he had done at Alexandria but got a lot of his knowledge from dissecting animals. He made mistakes such as saying there was a connection between liver and stomach. Galen was the most famous Roman doctor. He combined Greek knowledge with his own findings. His views were widely followed through his books.

(b) In which period was there most improvement in surgical and anatomical knowledge:

- Ancient Egypt
 - Ancient Rome
- 8**

Explain your answer.

Target: Evaluation and understanding of the key features of the period (AO1/2)

Candidates either submit no evidence or fail to address the question **0**

Level 1: Describes the knowledge of Ancient Egypt and/or Rome

eg In Egypt they did a lot of embalming so they found out about the human body and its organs.

The answer demonstrates simple understanding of the rules of spelling, punctuation and grammar. It is generally coherent but basic in development.

1-2

Level 2: Answers that comment briefly on both periods in a simple comparison

eg In Ancient Egypt they knew about the heart and most internal organs like the liver and lungs and they knew they were connected together. In Rome operations were rare. But they had more anatomical knowledge. The brain was proved to control the parts of the body by an experiment Galen did.

OR

Answers that consider one period in depth

eg Some historians believe that in Ancient Egypt they learned a lot from embalming but they were stopped from examining individual organs because of the need for organs in the afterlife. Other historians think that as embalming was done quickly the Egyptians learned more from sacrificing animals in their religion. The Egyptians knew about the bowels and thought rotting food there could make you ill. Some Egyptian doctors were considered specialists such as eye doctors.

3-5

The answer demonstrates developed understanding of the rules of spelling, punctuation and grammar. It is reasonably well organised and presented in a clear and effective manner.

Level 3: Answers that explain and evaluate both period's contribution to the development of anatomical and surgical knowledge in a comparison that is detailed

eg In Ancient Egypt they could do simple surgery. They could mend a broken nose or leg. Some of their preparations had substances like malachite or honey which can act as an antibiotic. They had metal instruments for surgery. Internal operations were very risky in Roman times. They had no antiseptics or effective anaesthetics. They could use opium for pain relief and turpentine and pitch for antiseptics. There were amputations and trephining was used to relieve pain in the head. Cataracts could be removed using fine needles.

6-8

The answer demonstrates developed understanding of the rules of spelling, punctuation and grammar. It is well organised with an appropriate form and style of writing. Some specialist vocabulary is used.

Section C Disease and Infection

Question 4

- (a) Choose one of the factors below that have affected the development of medicine in the Twentieth century.

War	4
Science and Technology	

Describe the effect of that factor in the fight against disease and infection.

Target: Understanding of the key features of the period (AO1)

Candidates either submit no evidence or fail to address the question	0
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Level 1: Answers that show recognition and simple understanding of the key feature mentioned in the question

Answers will show simple recognition of either war or science and technology eg war encouraged antibiotics to treat infections to be developed.	1-2
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Level 2: Answers that explain and show understanding in a broader context of the period. Answers will show knowledge of some distinctive features of either war or science and technology

eg we would not have had Penicillin when we did if it had not been for World War 2 because Florey had to look to the USA and the drug companies there to mass produce penicillin. When America came into the war in 1941 it brought America's industrial power to the problem.	3-4
--	------------

(b) Which factor has contributed most in the fight against disease and infection in the Twentieth century:

- War
- Science and Technology

8

Explain your answer.

Target: Evaluation and understanding of the key features of the period (AO1/2)

Candidates either submit no evidence or fail to address the question

0

Level 1: Describes the influence of War and/or Science and technology

eg science has invented many new drugs. Doctors understand the biology and chemistry of the human body more. Antibiotics treat stomach ulcers now and before they had to cut out the ulcers.

1-2

The answer demonstrates simple understanding of the rules of spelling, punctuation and grammar. It is generally coherent but basic in development.

Level 2: Answers that comment briefly on both factors in a simple comparison

eg the influence of war has been to increase the pace of discovery such as Penicillin in World War 2, without the need to treat battle field casualties on D-Day the American drugs companies would not have acted so quickly. Science gives us slower discoveries and inventions because they test the drugs so they are safe. People don't want another drug like thalidomide.

OR

Answers that consider one factor's contribution to the development of medicine in depth

eg science and technology has contributed more than warfare to medical developments in the Twentieth century because so many diseases are treated with drugs that are developed in laboratories. Many organs can be replaced and transplanted but they would not work without anti-rejection drugs developed by Science. Technology provides doctors with so many tests, like blood tests, that tell what is wrong so that illness can be avoided or treated early on. Science also tells us what makes us healthy so we can avoid disease. Blood typing is a good example of science helping to improve medicine.

3-5

The answer demonstrates developed understanding of the rules of spelling, punctuation and grammar. It is reasonably well organised and presented in a clear and effective manner.

Level 3: Answers that explain and evaluate both factors contribution to the development of medicine in a comparison that is detailed

eg the story of penicillin shows the influence of war and science on developing new treatments. The role of warfare in the development of penicillin is important because Fleming travelled with Almroth Wright to the WW1 battlefields to see the types of infection like gangrene caused in wounds. He wanted to find something that would stop infections. In desperate times of war scientists are inspired and determined to develop treatments. The war gave Fleming a lot of credit because that was good news and propaganda but it was Florey who should be praised. Warfare made Florey take bold decisions about the development of Penicillin. He was using a Scientific approach. He gave the lab over to its production. He needed American government help and the drug companies to mass produce enough pure penicillin. Florey carefully tested penicillin with a series of repeatable experiments. Florey had a team of scientists and doctors working with him on the development of penicillin. This is how science works. Science works well in peace time. More of the century has been peaceful so that has helped science.

6-8

The answer demonstrates developed understanding of the rules of spelling, punctuation and grammar. It is well organised with an appropriate form and style of writing. Some specialist vocabulary is used.

OR

Section B Disease and Infection

Question 5

(a) Choose one of the important theories in the history of medicine below.

- The theory of the four humours
 - Germ theory
- 4**

What was the theory?

Target: Understanding of the key features of the period (AO1)

Candidates either submit no evidence or fail to address the question **0**

Level 1: Answers that show recognition and simple understanding of the key feature mentioned in the question

Answers will show simple recognition of **either** the four humours theory **or** germ theory **1-2**
eg the four humours were black bile, blood, yellow bile and phlegm.

Level 2: Answers that explain and show understanding in a broader context of the period. Answers will show knowledge of some distinctive features of **either** the four humours theory **or** germ theory

eg germ theory was a scientific explanation of the action of germs to cause decay. Previously many scientists believed that decay happened spontaneously. They mistook the germs for the product rather than the cause of decay. **3-4**

(b) Which of these theories contributed most to the development of medicine:

- the theory of the four humours
 - Germ theory
- 8**

Explain your answer.

Target: Evaluation and understanding of the key features of the period (AO1/2)

Candidates either submit no evidence or fail to address the question **0**

Level 1: Describes the theory of the four humours and/or germ theory
 eg germ theory showed why milk and wine went off. Many scientists at the time believed in spontaneous generation. **1-2**
 The answer demonstrates simple understanding of the rules of spelling, punctuation and grammar. It is generally coherent but basic in development.

Level 2: Answers that comment briefly on both theories in a simple comparison
 eg the four humours theory was about balancing your humours. It told you why you were ill. The germ theory also said why you could be sick but used germs as the cause not humours. **3-5**
OR Answers that consider one theory's contribution to the development of medicine in depth
 eg the four humours theory was important because it was an attempt to explain illness without reference to gods and religion. It was a natural explanation and so was a big change from what went before. This was different from gods making you ill. It was put forward by Hippocrates and Galen followed it in Roman times. The theory was based on Greek ideas about what things were made of such as air, fire, water and earth. The Greek philosophers were developing these ideas in the 6th Century BC. The answer demonstrates developed understanding of the rules of spelling, punctuation and grammar. It is reasonably well organised and presented in a clear and effective manner.

Level 3: Answers that explain and evaluate both theories contribution to the development of medicine in a comparison that is detailed **6-8**
 eg the development of Germ theory by Pasteur was the most important contribution because it explained why disease happened. The previous theory of spontaneous generation did not help anyone treat disease. The theory showed how germs caused disease. It allowed other people like Robert Koch to discover the tuberculosis germ. The theory had an impact on surgery helping Lister combat hospital sickness and ensured that public health improved. The four humours was a natural explanation of illness unlike previous Greek ideas like the God Asklepios, so it was a major change and it had an influence for nearly 2000 years. Charles II of England had his final treatments based on it when he died in 1685. It lasted so long because the Christian church in the Middle Ages supported the teachings of Hippocrates and Galen. As such the four humours held back new ideas because to challenge it was to challenge the church. The Germ theory had opponents but the simplicity of Pasteur's proof was very powerful. The Germ theory led to improved treatments whereas the four humours led to more a scientific approach at the time.
 The answer demonstrates developed understanding of the rules of spelling, punctuation and grammar. It is well organised with an appropriate form and style of writing. Some specialist vocabulary is used.