Reading

You have one hour for this test.

READING PASSAGE 1

*You should spend about 20 minutes on **Questions 1-13**, which are based on Reading Passage 1 on this and the following page.*

THE BATTLE OF TOWTON

March 29th, 1461, in tiny Towton was one of the bloodiest days in English history, yet only recently have a small number of soldiers' bodies undergone exhumation and examination. Several thousand still lie buried in mass graves on the battlefield. Early analysis of the remains has led to a reassessment of medieval warfare.

Towton, a village in the north of England, between York and Leeds, is unknown to many English people. History taught at school largely ignores the mid-15th century. Towton itself has neither museum nor large memorial, merely a roadside cross to mark where the battle took place.

In 1996, a building nearby called Towton Hall was being renovated when labourers unearthed skeletons in its grounds and beneath its floor. Twenty-eight of these were complete; another 20 or so were partial. What shocked archaeologists was the violent way in which the men had met their deaths and the callous manner of their burial. We are all familiar with the gory wars of the 20th century, and might assume that technology and politics have become more destructive over time. However, it could be the case that humans have long been vicious – only now is the evidence coming to light.

So what was the Battle of Towton? It was one clash of many between two powerful families – the Lancastrians and the Yorkists – who each wanted their king to rule England. The Lancastrians believed the current King of England, Henry VI, was incapable if not insane, whereas the Yorkists, led by Richard Plantagenet, supported Henry since he had chosen Richard as the next king. When Richard was killed in 1460, his son Edward, only 18, vowed to assume the throne in his father's place. Needless to say, the Lancastrians disputed this. Effectively, the Battle of Towton would legitimate Edward's reign.

Prior to Towton, military encounters in England had been small-scale: battles were fought with hundreds or at most a few thousand men, and no army was professional. In so-called peace time, private armies consisted of men – ranging in age from 15 to 50 – whose levels of fitness were variable, and whose training and equipment were poor. This meant that when fighting did erupt, it seldom lasted long – perhaps just a few days. Nor were many men killed. In fact, there is evidence that more men died from their wounds or other illnesses *after* combat. Towton it seems was different, for here was a battle in which both sides assembled large armies, and there were terrible casualties in the field.

The number of soldiers killed at Towton is a matter of speculation as few records have come down to us, and those that do survive may have exaggerated the victory of King Edward IV, as Edward became, in order to intimidate his enemies. One estimate of the dead is 28,000 out of the 75,000 soldiers who took part. These 75,000 represent 10% of all fighting-age men in England at the time – the total population being just three million. Twenty-eight thousand dead on one day is, therefore, a staggering number.

As injuries show on the skeletons of soldiers already studied, those men were hacked to death, shot by arrows, or trampled by horses. Some of the first bullets used in England were fired that

day. Lead-composite shot has been dug up on the battlefield, and one archaeologist claims to have found part of a handgun, but there are no obvious deaths from guns, and it is hard to say how they were used. The most effective weapon was the poleaxe – a long, heavy iron weapon with a sharp tip, a small axe blade on one side and, on the other, a large sharp head like a Philips-head screwdriver. It was used to kill soldiers who were running away as battle lines broke up, and it is thought this is how most of the Lancastrians buried at Towton Hall died.

It is not known why the death rate in this battle was so high, nor why the bodies of soldiers were so disfigured. Skeletal evidence indicates that often a dozen blows were given to a man who would have been killed by the initial two or three. Archaeologists are uncertain when these additional blows were made – on the battlefield or in the burial process – but such savagery suggests the emergence of a new concept of an opponent as not merely someone to kill but someone whose identity should be utterly effaced. After death, in a ritual never before seen in English warfare, soldiers were stripped of their clothes and tossed into mass graves to further dehumanise them.

It is easy to forget that in medieval England burial was sacred, and people believed ascent to Heaven only took place when the body of the dead was whole. In all Europe, there is only one other known mass grave on the scale of Towton from around the same time – that is in Sweden from 1361. There, however, soldiers from the Battle of Wisby were buried whole in their armour.

It appears that the savagery of the Yorkists did effect submission since Edward remained king for the next 22 years.

Today, at Towton, work continues on excavation and analysis of the medieval skeletons. Theories about a new kind of violent warfare and the purpose of mass graves abound. It seems that organised brutality is no recent phenomenon; it existed 550 years ago.

Questions 1-5

Complete the summary below.

*Choose **ONE WORD OR A NUMBER** from the passage for each answer.*

Write your answers in boxes 1-5 on your answer sheet.

The battlefield at Towton in northern England has only recently been surveyed and excavated. Archaeologists are now looking at medieval **1** ..... in a new way. Although a major battle took place at Towton, this is not popular knowledge for English people as the battle is not studied at **2** ..... .

In 1996, soldiers' skeletons were found under a building near Towton. **3** ..... of these had all their bones. This meant archaeologists could accurately determine how the soldiers had died. The archaeologists were very surprised by the **4** ..... means of death, and the uncaring method of **5** ..... .

Questions 6-9

What are the following statements according to information in the passage?

In boxes 6-9 on your answer sheet, write:

TRUE	*if the statement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

6 The Battle of Towton was part of a war between two families seeking control over England.

7 Soldiers who fought at Towton were better trained than in the past.

8 Ten percent of all soldiers in England died at Towton.

9 Guns killed many soldiers at Towton.

Questions 10-13

Choose the correct letter: ***A, B, C,*** *or* ***D.***

Write the correct letter in boxes 10-13 on your answer sheet.

10 Most Lancastrians were killed

A fleeing the Yorkists.

B at Towton Hall.

C in prison.

D fighting in lines on the battlefield.

11 At Towton, it is likely soldiers' bodies were cut up and buried in mass graves

A as this was common practice at the time.

B because King Edward IV was against religion.

C since Yorkists hated Lancastrians.

D so opponents of King Edward IV would live in fear.

12 Soldiers who died in a Swedish battle in 1361

A were also killed with poleaxes.

B went to Heaven.

C were buried in individual graves.

D were buried more respectfully.

13 A suitable title for this passage would be:

A Towton: a forgotten battle in English history

B The horrors of warfare in an age before guns

C Modern savagery in medieval Towton

D Towton: a turning point in military techniques

READING PASSAGE 2

*You should spend about 20 minutes on **Questions 14-27**, which are based on Reading Passage 2 on the following pages.*

HARD-PASTE PORCELAIN

Definition and origin

The term porcelain refers to ceramics made from similar materials and baked at high temperatures which are light, durable, and vitreous.* Porcelain combines the positive qualities of glass and clay – glass is smooth and translucent while clay retains its shape when moulded. However, due to the addition of a few more minerals, porcelain is stronger than either glass or clay. It is also extremely beautiful and valuable: Chinese Ming Dynasty (1368-1644 AD) bowls can fetch a million dollars on the international art market.

For around fifteen hundred years, porcelain has been employed as tableware and decoration, but its more recent applications include: dental crowns and electrical insulators.

Porcelain was first made in China. During the Tang Dynasty (618-907 AD), small amounts were used by the court and the very rich. High-quality porcelain, like that manufactured today, was not widely available until the Yuan Dynasty (1279-1368 AD).

Chinese porcelain was traded with kingdoms in Central, Southeast Asia, and the Middle East from the seventh century. By the Middle Ages, it had reached Europe.

European obsession

Porcelain was consumed in enormous quantities by European royal families, nobles, and the church, all of whom tried desperately to discover its chemical composition. The English word, 'porcelain', derives from the Portuguese name for a sea creature, the nautilus, which has a spiral orange vitreous shell from which it was believed at one time that porcelain was made. Other more astute Europeans contended the ceramic contained crushed glass or bone.

Early experiments in the production of porcelain included adding ground glass to clay. The result is called 'soft-paste' as it is weaker than true porcelain.

So great was the frenzy for possessing Chinese porcelain, or attempting to recreate their own hard-paste, that a number of European principalities endangered themselves financially, spending as much of their budgets on pursuing porcelain as on their armies. Frederick II of Prussia (now in Germany) was one such fanatic. Fortunately, for Prussia, two scientists – Johann Böttger and Ehrenfried von Tschimhaus – in the monarch's service, solved the porcelain puzzle. Their discovery, made in 1707, combined clay with ground feldspar – a mineral containing aluminium silicate.

Meanwhile, in England, the recipe was a little different: ash, from cattle bones, was mixed with clay, feldspar, and quartz. This became known as 'bone china', and is still manufactured. Although not true porcelain, it remains popular in the US and the UK because it is harder than porcelain.

Constituents

The raw materials from which porcelain is made are abundant. They are: white clay (china clay or ball clay), feldspar, or perhaps flint, and silica – all of which are noted for their small

*Having a glassy appearance

particles. Feldspar and flint are used as fluxes, which reduce the temperature needed for firing, and bind the glass, silica, and clay granules. Porcelain may also contain other ingredients like alumina or steatite.

Manufacture

To produce porcelain, the raw materials are selected and weighed. Then, they are crushed in a two-stage process. Jaw crushers work first; mullers or hammer mills subsequently reduce particles to 0.25 cms (0.1 inch) or less in diameter. A third crushing, using ball mills, takes place for the finest porcelain. During purification, which follows, granules that are not of uniform size are screened out. Magnetic filtration then removes iron, commonly found in clay, because this prevents porcelain from forming correctly. The fifth stage, preparatory to firing, is formation. There are several types of formation by hand or machine. After formation, the ware undergoes its initial firing in a kiln – a special oven.

A glaze is a glassy liquid similar in composition to porcelain. If a porcelain object is painted, a glaze covers the paint, or its decoration may just be the glaze. Glaze is applied by painting or dipping, and takes place after the first firing. Not only are porcelain wares gorgeous, but their decoration and glazing are also of great interest.

In making porcelain, the temperature in the kiln is critical – high enough to reconstitute the elements, yet low enough to vaporise contaminants and minimise shrinkage. A typical temperature is 1454° Celsius (2650° Fahrenheit).

During the firing process, a number of chemical reactions occur. Carbon-based impurities burn out at 100-200°C (215-395°F). As the kiln is heated, carbonates and sulfates decompose. When heated to 700-1100°C (1295-2015°F), the fluxes react with the decomposing minerals to form liquid glass. After a certain density is reached, at around 1200°C (2195°F), the ware is cooled, causing the liquid glass to solidify.

Pause for thought

So, next time you dine from fine porcelain, take a moment to reflect on the complicated history and sophisticated manufacture of this exquisite product.

Questions 14-18

For which places are the following statements about porcelain true?

In boxes 14-18 on your answer sheet, write:

A *China*

B *Europe*

C *Both China and Europe*

14 Here, dishes have sold for very high prices.

15 It was first invented here.

16 Its English name comes from here.

17 Military and porcelain expenditure were equal in some places here.

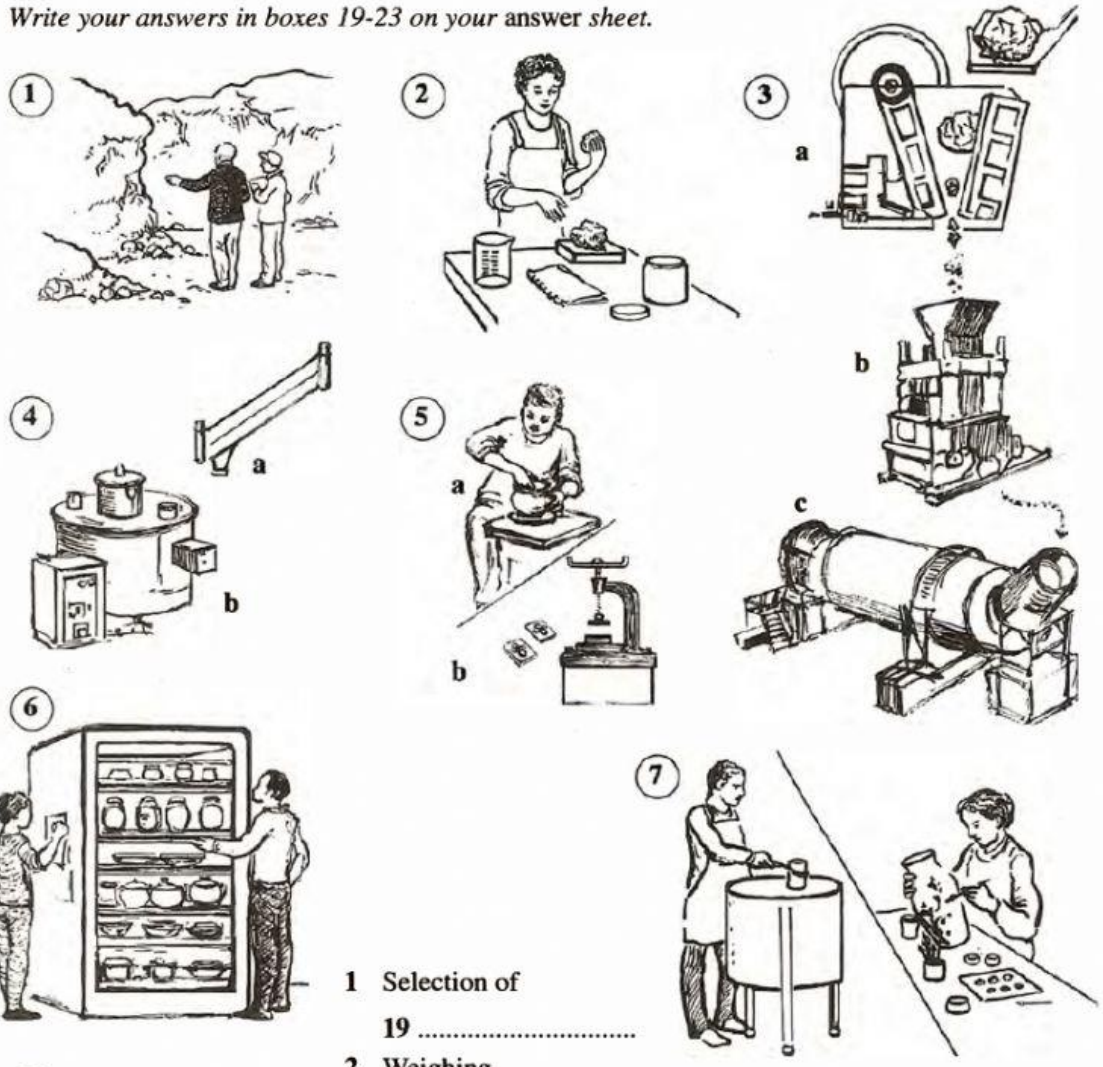
18 Here 'bone china' was produced.

Questions 19-23

Label the stages in the process below.

Choose ***NO MORE THAN TWO WORDS OR A NUMBER*** *from the passage for each answer.*

Write your answers in boxes 19-23 on your answer *sheet.*



1 Selection of
19 .....
2 Weighing
3 Crushing: **a.** Jaw crushers
b. Mullers/hammer mills – particles < **20** .....
in diameter
c. Smaller particles for finer porcelain
4 **21** ..... : **a.** Non-uniform granules screened out
b. Iron removed by magnetic filtration
5 Formation: **a.** Manual **b.** Mechanical
6 **22** ..... : Wares placed in kiln and baked
7 Decoration: **23** ..... and/or painting
8 Second firing

Questions 24-27

Complete the notes below.

*Choose **ONE WORD OR A NUMBER** from the passage for each answer.*

Write your answers in boxes 24-27 on your answer sheet.

FIRING PORCELAIN

Chemical reaction	Event	Temperature range
1	Carbon-based impurities **24** ..... out	100-200° C
2	Temperature rises inside **25** ..... → decomposition of carbonates & sulphates	
3	Fluxes + decomposing minerals → liquid glass	**26** .....-1100° C
4	Density reached: Liquid glass begins to **27** ..... ; porcelain complete	c 1200-1454° C
Cooling	Porcelain complete	c 1454-15° C

READING PASSAGE 3

*You should spend about 20 minutes on **Questions 28-40**, which are based on Reading Passage 3 on the following pages.*

IS AID HURTING AFRICA?

Despite its population of more than one billion and its rich land and natural resources, the continent of Africa remains poor. The combined economies of its 54 states approximate that of France, at around $2.4 trillion.

It is difficult to speak of Africa as a unit as its states differ from each other in culture, climate, size, and political systems. Since mid-20th-century independence, many African states have pursued different economic policies. Yet, none of them has overcome poverty. Why might this be?

One theory says Africa is unlucky. Sparsely populated with diverse language and culture, it contains numerous landlocked countries, and it is far from international markets.

Dambisa Moyo, a Zambian-born economist, has another theory. In her 2009 book, *Dead Aid*, which is still much discussed, she proposes that international aid is largely to blame for African poverty because it has encouraged dependence and corruption, and has diverted talented people from business. One of her statistics is that from 1970-98, when aid to Africa was highest, poverty rose from eleven to 66%. If aid were cut, she believes Africans would utilise their resources more creatively.

When a state lacks the capacity to care for its people, international non-governmental organisations (NGOs), like Oxfam or the Red Cross, assume this role. While NGOs distribute food or

medical supplies, Moyo argues they reduce the ability of the state to provide. Furthermore, during this process, those in government and the military siphon off aid goods and money themselves. Transparency International, an organisation that surveys corruption, rates the majority of African states poorly.

Moyo provides another example. Maybe a Hollywood star donates American-made mosquito nets. Certainly, this benefits malaria-prone areas, but it also draws business away from local African traders who supply nets. More consultation is needed between do-gooder foreigners and local communities.

In order to increase their wealth, Moyo proposes African nations increase their investment in bonds or their co-operation with China.

The presidents of Rwanda and Senegal are strong supporters of Moyo, but critics say her theories are simplistic. The international aid community is not responsible for geography, nor has it anything to do with military takeover, corruption, or legislation that hampers trade. Africans have had half a century of self-government and economic control, yet, as the population of the continent has doubled, its GDP has risen only 60%. In the same period, Malaysia and Vietnam threw off colonialism and surged ahead economically by investing in education, health, and infrastructure; by lowering taxes on international trade; and by being fortunate to be surrounded by other successful nations.

The economist Paul Collier has speculated that if aid were cut, African governments would not find alternative sources of income, nor would they reduce corruption. Another economist, Jeffrey Sachs, has calculated that twice the amount of aid currently given is needed to prevent suffering on a grand scale.

In *Dead Aid*, Moyo presents her case through a fictitious country called 'Dongo', but nowhere does she provide examples of real aid organisations causing actual problems. Her approach may be entertaining, but it is hardly academic.

Other scholars point out that Africa is dominated by tribal societies with military-government elites. Joining the army, rather than doing business, is often the easiest route to personal wealth and power. Unsurprisingly, military takeovers have occurred in almost every African country. In the 1960s and 70s, European colonials were replaced by African 'colonials' – African generals and their families. Meantime, the very small, educated bourgeoisie has moved abroad. All over Africa, strongmen leaders have ruled for a long time, or one unstable regime has succeeded another. As a result, business separate from military government is rare, and international investment limited.

Post-secondary education rates are low in Africa. Communications and transportation remain basic, although mobile phones are having an impact. The distances farmers must travel to market are vast due to poor roads. High cross-border taxes and long bureaucratic delays are par for the course. African rural populations exceed those elsewhere in the world. Without decent infrastructure or an educated urbanised workforce, business cannot prosper. Recent World Bank statistics show that in southern Africa, the number of companies using the internet for business is 20% as opposed to 40% in South America or 80% in the US. There are 37 days each year without water, whereas there is less than one day in Europe. The average cost of sending one container to the US is $7600, but only $3900 from East Asia or the Pacific. All these problems are the result of poor state planning.

Great ethnic and linguistic diversity within African countries has led to tribal favouritism. Governments are often controlled by one tribe or allied tribes; civil war is usually tribal. It is

estimated each civil war costs a country roughly $64 billion. Southern Africa had 48 such conflicts from 1940-2015 while South Asia, the next-affected region, had only 27 in the same period. To this day, a number of bloody conflicts continue.

Other opponents of Moyo add that her focus on market investment and more business with China is shortsighted. The 2008 financial crisis meant that countries with market investments lost money. Secondly, China's real intentions in Africa are unknown, but everyone can see China is buying up African farmland and securing cheap oil supplies.

All over Africa, there are untapped resources, but distance, diversity, and low population density contribute to poverty. Where there is no TV, infrequent electricity, and bad roads, there still seems to be money for automatic weapons just the right size for 12-year-old boys to use. Blaming the West for assisting with aid fails to address the issues of continuous conflict, ineffective government, and little infrastructure. Nor does it prevent terrible suffering.

Has aid caused problems for Africa, or is Africa's strife of its own making or due to geography? Whatever you think, Dambisa Moyo's book has generated lively discussion, which is fruitful for Africa.

Questions 28-38

Complete the chart on the following page.

*Choose **ONE WORD OR A NUMBER** from the passage for each answer.*