

## Sixth Form Entrance 2017

### GENERAL PAPER

1 hour 20 minutes

**All** sections of the paper must be attempted with all answers to **Sections A, B and C** written on the question paper.

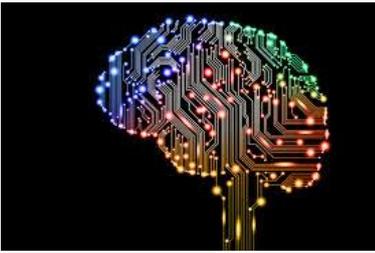
Your answer to **Section D** should be written on the writing paper provided.

There are 60 marks available for this paper and the marks for each question are shown in square brackets. Please plan your work accordingly.

Name (CAPITAL LETTERS): .....

Present school: .....

## **Section A – Making decisions [15 marks]**



The human mind is a very complex piece of biological machinery. It is forced to make any number of decisions in a day. Sometimes the mind seems to calculate, to weigh up the advantages and disadvantages of making a particular choice, sometimes it works entirely by instinct. In the three questions which follow, consider carefully how you are coming to your conclusion. Is it by calculation? Is it by instinct?

Each of the following questions (1-3) contains an imaginary scenario where there are a number of choices. For each of them:

- (i) choose what you believe to be the right answer**
- (ii) explain why you have come to your answer**
- (iii) explain why some people might choose another option**

1. Linda is 31 years old, single, outspoken and very bright. She has a philosophy degree and as a student was deeply concerned with issues of discrimination and social justice, and also participated in anti-nuclear demonstrations. Which of the following statements is more probable? [5]

- Linda works behind the counter in a bank
- Linda works behind the counter in a bank and is active in the feminist movement

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2. A certain town is served by two hospitals. In the larger hospital about 45 babies are born each day, and in the smaller hospital about 15 babies are born each day. As you know, about 50% of babies are boys. However, the exact percentage varies from day to day. Sometimes it may be higher than 50%, sometimes lower. For a period of 1 year, each hospital recorded the days on which more than 60% of the babies born were boys. Which hospital do you think recorded more such days? [5]

- The larger hospital
- The smaller hospital
- About the same

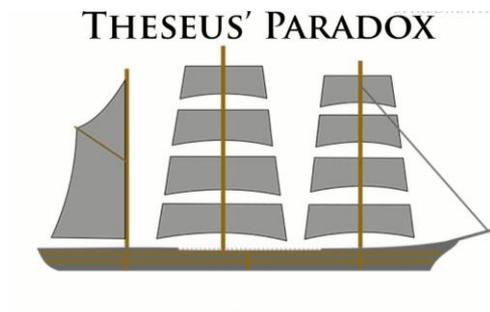


## Section B [18 marks]

The Teletransporter Paradox was put forward by the Philosopher, Derek Parfit, in 1984. His full account is reproduced below. But, first, you will see two earlier versions of the paradox. Read these carefully, then read Parfit's.



By the way, a 'paradox' is generally defined as a statement that is very difficult to understand because it contains or leads to two equally powerful opposite facts, characteristics or ideas which contradict each other.



The ship wherein Theseus and the youth of Athens returned from Crete had thirty oars, and was preserved by the Athenians down even to the time of Demetrius Phalereus, (350-280 BCE) for they took away the old planks as they decayed, putting in new and stronger timber in their places, in so much that this ship became a standing example among the philosophers, for the logical question of things that grow; one side holding that the ship remained the same, and the other contending that it was not the same.

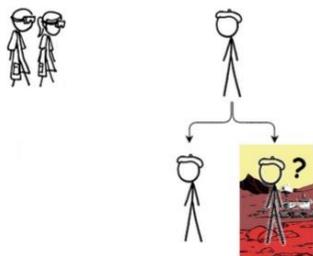
*Plutarch (46-120 CE), Theseus*

I would be glad to know your Lordship's opinion whether when my brain has lost its original structure, and when some hundred years after the same materials are fabricated so curiously as to become an intelligent being, whether, I say that being will be me; or, if, two or three such beings should be formed out of my brain; whether they will all be me, and consequently one and the same intelligent being.



*Thomas Reid letter to Lord Kames, 1775*

Parfit: Teletransporter



I enter the Teletransporter. I have been to Mars before, but only by the old method, a space-ship journey taking several weeks. This machine will send me at the speed of light. I merely have to press the green button. Like others, I am nervous. Will it work? I remind myself what I have been told to expect. When I press the button, I shall lose consciousness, and then wake up at what seems a moment later. In fact I shall have been unconscious for about an hour. The Scanner here on Earth will destroy my brain and body, while recording the exact states of all my cells. It will then transmit this information by radio.

Travelling at the speed of light, the message will take three minutes to reach the Replicator on Mars. This will then create, out of new matter, a brain and body exactly like mine. It will be in this body that I shall wake up.





## Section C [12 marks] – Free will

Read the passages below very carefully and answer the questions which follow.

### PASSAGE A: Predestination

There was once a man who said 'Damn'  
It is borne upon me I am  
An engine that moves  
In predestinate grooves;  
I am not even a bus, I'm a tram.



### PASSAGE B: Determinism [adapted from John Hospers, 1956]

With every day that passes, science is able to tell us more about the causes of things—the *determining* factors which *make* things happen the way they do. This includes human actions as well as events in the physical world: we know more than ever before about what makes people behave as they do.

Future events are becoming increasingly predictable. Once eclipses were not predictable; now we can predict their occurrence to within a tenth of a second 10,000 years in advance. Once the path of a projectile could not be predicted; now it can be mapped out with such precision that we know how to make it hit a certain distant target at just the right moment. Even when we don't know exactly what a thing will do—for instance, just how a stone will roll downhill— this isn't because its path is not completely determined by the forces acting upon it—but because we don't know what all those forces are: just where the stone will hit this crevice, whether the slippery side of the stone in rolling down the hill will be against the smooth part of the ground on this part of its journey downward, and so on. We know the laws, but not all the initial conditions. But nobody imagines—at least, no one who has the slightest acquaintance with science—that its path *couldn't* be calculated if we knew, or bothered to acquaint ourselves with, all the million and one factors that would have to be considered in computing its course down the slope.

Now, nobody ever pretended that stones have freedom or free-will. But it *has* been contended that human beings have, and science is gradually showing up this claim for what it is—a mere superstition. We know far more today than ever before about people's hereditary constitution



and environmental conditions, the laws of how people behave, all the factors that make people act as they do. The person is becoming more and more like the stone. He may fancy that he is free, but this is a delusion: he is no more free than the stone is. The forces acting on him are more *complex*, and therefore far more difficult to discover, than those acting on the stone, but they are there just the same. Whether he knows what they are or not, they are there, and they inevitably make him what he is and make him do what he does. Anyone who had knowledge of the laws and of his total state at any given moment would be able to predict everything that he would do in response to every future situation; he would, in short, be able to show how every moment of the person's life is determined.



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**Section D [15 marks]**

Answer one of these questions in essay format on the writing paper provided.

**You may answer this question in a language other than English if you wish – please say what that language is at the top of your answer.**

- 10. This story is more than one just about the science fiction of teletransportation, it raises all sorts of questions about human identity, about science and even about ethics. What questions do you think this story raises and are there any answers? [15]
  
- 11. These passages all suggest, in different ways, there is no such thing as ‘free-will’. What is your view? Do you have free will? If so, how much? If not, what are the implications for the way we run society? [15]

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**END OF EXAMINATION**

## Sixth Form Entrance 2015

### GENERAL PAPER

1 hour 15 minutes

**All** three sections of the paper must be attempted.

**Sections A and B** should be answered on the question paper.

**Section C** should be answered on a separate sheet of writing paper and clearly labelled with your name and present school. If preferred, your answer to Section C *may* be written in a language other than English.

**Name (CAPITAL LETTERS):** .....

**Present school:** .....

## Section A [20 marks]

The following is **The Lurchins Water Jug Experiment** (Lurchin, 1942, 1959). You are given a set of empty jugs with different capacities, and asked to measure out a quantity of water. You are to use the jugs to find the desired quantity of water in the simplest way possible (i.e. using the least number of jugs – you don't have to use all three).



Please take care especially when you get to 6-10.

Problem	Capacity of Jug A	Capacity of Jug B	Capacity of Jug C	Desired quantity
1	21	127	3	100
2	14	163	25	99
3	18	43	10	5
4	9	42	6	21
5	20	59	4	31
6	23	49	3	20
7	15	39	3	18
8	28	76	3	25
9	18	48	4	22
10	14	36	8	6

Your answer should be represented in a formula with D representing the desired quantity and A, B and C representing the jugs, e.g.  $D = 2A + 1B - C$ .

Write your answers below:

1. ....
2. ....
3. ....
4. ....
5. ....
6. ....
7. ....
8. ....
9. ....
10. ....

## **Section B [20 marks]**

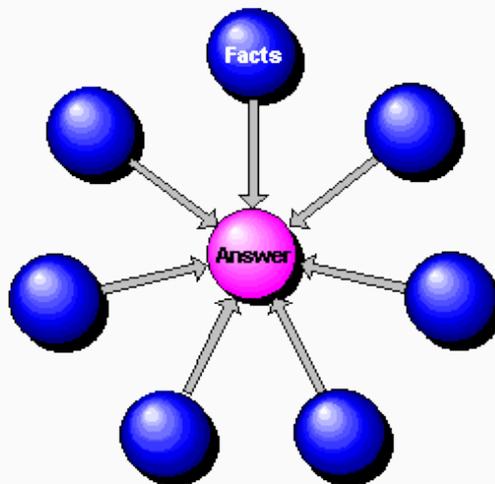
**Read the following on Convergent and Divergent Thinking Styles very carefully; then answer the questions below.**

In 1967 L. Hudson studied the thinking patterns of English schoolboys and found that conventional (normal) ways of measuring their intelligence did not always do justice to their abilities. The tests gave credit for problem-solving which produced the “right” answer, but under-estimated creativity and unconventional approaches to problems.

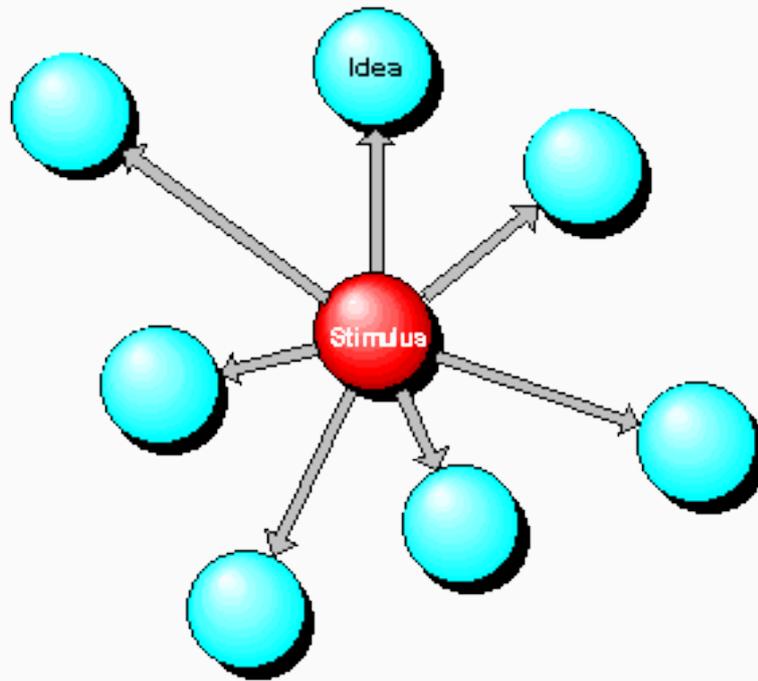
He concluded that there were two different forms of thinking:

- One he called “convergent” thinking, in which the person is good at bringing material from a variety of sources to bear on a problem, in such a way as to produce the “correct” answer. This kind of thinking is particularly appropriate in science, maths and technology.

**Convergent thinking**  
- science and technology(?)



- Because of the need for consistency and reliability, this is really the only form of thinking which standardised intelligence tests (and even national exams) can test.
- The other he termed “divergent” thinking. Here the student’s skill is in broadly creative elaboration of ideas prompted by a stimulus, and is more suited to artistic pursuits and study in arts and the humanities.



**Divergent thinking**  
- arts and humanities(?)

(adapted from <http://www.learningandteaching.info/learning/converge.htm>)

- Hudson devised a test to see how people think. He called it the **Uses of Objects Test**. The idea was that you think of as many uses as you can of five everyday objects

- a barrel
- a paper clip
- a tin of boot polish
- a brick
- a blanket

1. Choose one of the objects listed above and do the Uses of Objects Test – i.e. you should think of as many uses as you can for the object you have chosen. [5]

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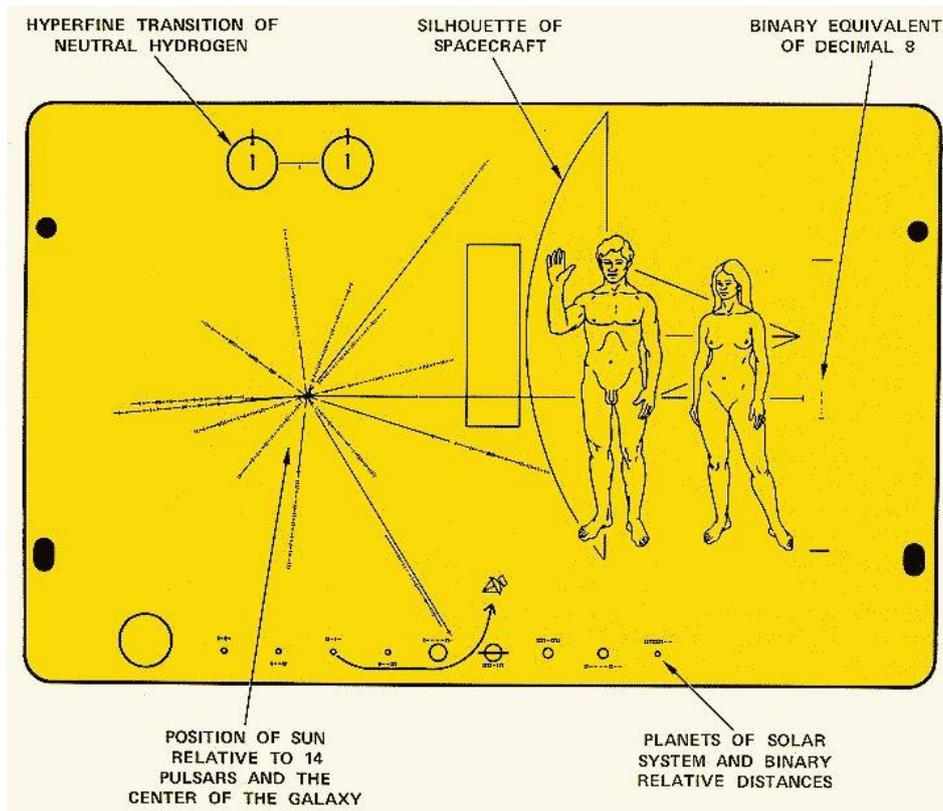
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Now read this:

The philosopher Ludwig Wittgenstein wrote: "I see a picture: it represents an old man walking up a steep path leaning on a stick. How? Might it not have looked just the same if he had been sliding downhill in that position? Perhaps a Martian would describe the picture so." (*Philosophical Investigations*, p.54).

Now answer one of the following question in essay format.

Either

1. Write a criticism of what was on the Pioneer 10 plate and suggest items that could have been included instead. (Give your reasons).

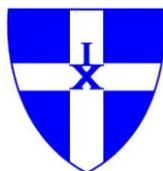
Or

2. "That fact that we cannot communicate successfully with animals means that we would never be able to communicate with aliens." Explain and evaluate the claim that if Martians (or any other alien life forms exist), it would be impossible to communicate with them because they wouldn't be able to understand us.

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End of Examination

# THE KING'S SCHOOL, CANTERBURY



## SIXTH FORM ENTRANCE EXAMINATION

2015 Entry

### GENERAL PAPER

1 Hour 20 Minutes

All three sections of the paper must be attempted.

**Sections A and B** should be answered on the question paper.

**Section C** should be answered on a separate sheet of writing paper and clearly labelled. If preferred, the answers to Section C may be written in a language other than English.

**Name (CAPITAL LETTERS):** .....

**Present school:** .....

## Section A [20 marks]



The Caribbean, long referred to as the West Indies, includes more than 7,000 islands; of those, 13 are independent island countries (**shown in red**) on the map, and some are dependencies or overseas territories of other nations.

Retrieved from:

<http://www.worldatlas.com/webimage/countrys/carib.htm>.



A cruise line is scheduling seven week-long voyages for the ship *Freedom*. Each voyage will occur in exactly one of the first seven weeks of the season: weeks 1 through 7. Each voyage will be to exactly one of four destinations: Guadeloupe, Jamaica, Martinique, or Trinidad.

Each destination will be scheduled for at least one of the weeks. The following conditions apply to *Freedom's* schedule:

- Jamaica will not be its destination in week 4.
- Trinidad will be its destination in week 7.
- *Freedom* will make exactly two voyages to Martinique,
- and at least one voyage to Guadeloupe will occur in some week between those two voyages.
- Guadeloupe will be its destination in the week preceding any voyage it makes to Jamaica.
- No destination will be scheduled for consecutive weeks.

Answer the following four questions [3 marks for each] by putting a tick ✓ clearly next to the correct response.

1. Which one of the following is an acceptable schedule of destinations for *Freedom*, in order from week 1 through week 7?
  - (a) Guadeloupe, Jamaica, Martinique, Trinidad, Guadeloupe, Martinique, Trinidad
  - (b) Guadeloupe, Martinique, Trinidad, Martinique, Guadeloupe, Jamaica, Trinidad
  - (c) Jamaica, Martinique, Guadeloupe, Martinique, Guadeloupe, Jamaica, Trinidad
  - (d) Martinique, Trinidad, Guadeloupe, Jamaica, Martinique, Guadeloupe, Trinidad
  - (e) Martinique, Trinidad, Guadeloupe, Trinidad, Guadeloupe, Jamaica, Martinique
  
2. Which one of the following CANNOT be true about *Freedom*'s schedule of voyages?
  - (a) *Freedom* makes a voyage to Trinidad in week 6.
  - (b) *Freedom* makes a voyage to Martinique in week 5.
  - (c) *Freedom* makes a voyage to Jamaica in week 6.
  - (d) *Freedom* makes a voyage to Jamaica in week 3.
  - (e) *Freedom* makes a voyage to Guadeloupe in week 3.
  
3. If *Freedom* makes a voyage to Trinidad in week 5, which one of the following could be true?
  - (a) *Freedom* makes a voyage to Trinidad in week 1.
  - (b) *Freedom* makes a voyage to Martinique in week 2.
  - (c) *Freedom* makes a voyage to Guadeloupe in week 3.
  - (d) *Freedom* makes a voyage to Martinique in week 4.
  - (e) *Freedom* makes a voyage to Jamaica in week 6.
  
4. If *Freedom* makes a voyage to Guadeloupe in week 1 and a voyage to Jamaica in week 5, which one of the following must be true?
  - (a) *Freedom* makes a voyage to Jamaica in week 2.
  - (b) *Freedom* makes a voyage to Trinidad in week 2.
  - (c) *Freedom* makes a voyage to Martinique in week 3.
  - (d) *Freedom* makes a voyage to Guadeloupe in week 6.
  - (e) *Freedom* makes a voyage to Martinique in week 6.

Please note that the next question [8 marks] is very different from the others and requires you to write in the space provided.

5. Referring only to what you can work out from looking at the map of the Caribbean, and the information supplied immediately underneath, write a few comments (with a brief explanation) on any **two** of: (a) Caribbean economy; (b) Caribbean politics; (c) Caribbean history; (e) Caribbean geography.

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2. Now consider the following additional proposals for combating the same disease:

- If Programme C is adopted, 400 people will die.
- If Programme D is adopted, there is a 1/3 probability that nobody will die, and a 2/3 probability that 600 people will die.

**Which of these two programmes would you pick, and why? [5 marks]**

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Now read the following and answer the three questions which follow:

3. When offered the first pair of proposals, 72 percent of the students in an experiment by Tversky and Kahneman (1981) chose Programme A and the rest picked Programme B (Figure 13.12). The choice of Programme A represents a **risk-aversion strategy**. The idea of saving 200 lives with certainty is more attractive than the risk that no one will be saved. However, when Tversky and Kahneman presented the descriptions of Programmes C and D to another group of students, 22 percent picked Programme C and 78 percent picked Programme D. This represents a **risk-taking strategy**. The certain death of 400 people is less acceptable than a 2 in 3 chance that 600 people will die.

Tversky and Kahneman concluded that, in general, when a choice is framed in terms of gains (as in the first problem, which is stated in terms of saving lives), people use a risk aversion strategy, and when a choice is framed in terms of losses (as in the second problem, which is stated in terms of losing lives), people use a risk-taking strategy.

But if we look at the four programmes closely, we can see that they are identical pairs (Figure 13.12). Programmes A and C both result in 200 people living and 400 people dying. Yet 72 percent of the participants picked Programme A and only 22% picked Programme C. A similar situation occurs if we compare Programmes B and D. Both lead to the same number of deaths, yet one was picked by 28% of the participants and the other by 78%. These results illustrate **the framing effect** – decisions are influenced by how the choices are stated, or *framed*.

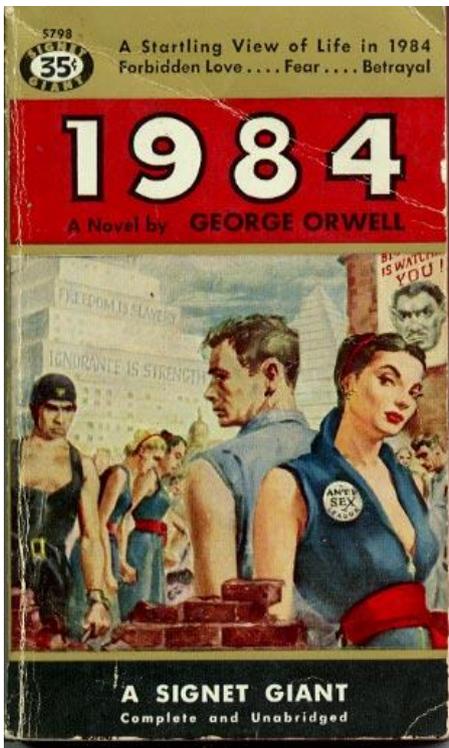
One reason people’s decisions are affected by framing is that the way a problem is stated can highlight some features of the situation (for example, that people will die) and deemphasize others (Kahneman, 2003).





## Section C [20 marks]

Read the following passage; then write an essay on the title below on the writing paper provided. You may write this essay in a language other than English if you prefer. If so, your examples can be drawn from the language you choose.



### The Principles of Newspeak An appendix to 1984 written by George Orwell in 1948.

George Orwell's futuristic study of life in 1984 was written in 1948. He looked ahead to a society, Oceania, which was entirely controlled by the government known as *Ingsoc* (English Socialism). The government watched over and directed all aspects of life; it is from this book that we get the phrase 'Big Brother is watching you'. As part of its means of controlling the population, the government was inventing a new language, Newspeak. This language was not widely used in 1984 but it was expected that Newspeak would finally supersede Oldspeak (or standard English, as we should call it) by about the year 2050. Meanwhile, it was gaining ground steadily, with all party members tending to use Newspeak words and grammatical constructions more and more in their everyday speech. Newspeak was to be a means of controlling thoughts and, therefore, of actions.

"To give a single example - The word *free* in Newspeak could only be used in such statements as "The dog is *free* from lice" or "This field is *free* from weeds." It could not be used in its old sense of "politically free" or "intellectually free," since political and intellectual freedom no longer existed even as concepts, and were therefore of necessity nameless. Quite apart from the suppression of definitely heretical words, reduction of vocabulary was regarded as an end in itself, and no word that could be dispensed with was allowed to survive. Newspeak was designed not to extend but to *diminish* the range of thought, and this purpose was indirectly assisted by cutting the choice of words down to a minimum. Newspeak was founded on the English language as we now know it, though many Newspeak sentences, even when not containing newly created words, would be barely intelligible to an English-speaker of our own day."

1. Using the passage above, and any other relevant material you can think of, write an essay entitled: "Language is Power".

[20]

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END OF EXAMINATION