

الإسم:  
الرقم:

مسابقة في مادة اللغة الإنكليزية  
المدة: ساعتان و نصف

### Part One: Reading Comprehension

(Score: 12/20)

*In the following selection, the writer sheds light on the scientific investigations done to solve the mystery of Tunguska Event. Read it carefully, and then answer the questions that follow.*

#### Lake Cheko and the Tunguska Event: Impact or No Impact?

1 The so-called Tunguska Event, 109 years ago, remains a challenge for modern science and the subject of disagreement among authorities. What is known is that on June 20, 1908, a large fireball crossed the sky above the forest over the Stony Tunguska River, one of Siberia's most remote areas. A mega explosion, equivalent to 185 Hiroshima bombs, followed and was heard in villages 1, 200 km away where 2,000 km<sup>2</sup> of forest was flattened, around 80 million trees were uprooted, and thousands of burned bodies of reindeer were strewn on the ground. Yet, no human loss was reported.

2 To witnesses, **it** appeared like Armageddon, the final war scenario between the good and evil forces according to ancient Greeks. One person, 65 km away, was thrown from his chair by the force of heat. He said, "Suddenly, the sky was split in two, and high above the forest the whole northern part of the sky appeared covered with fire. At that moment, there was a bang in the sky and a powerful crash followed by a noise like stones falling from the sky or guns firing. The earth trembled."

3 Some news reported that it was a meteorite falling to earth in Krasnoyarsk, the third largest city in Siberia, while foreign newspapers speculated on a volcanic eruption or even a UFO. Other reports mentioned that a comet made of ice, not rock, evaporated in the atmosphere. However, local people asserted that it was a visit by the lord of thunder.

4 It took decades – and only after the Russian revolution of 1917 – for the area to be properly investigated, and expeditions headed by Russian mineralogist Leonid Kulik led to a mystery that still puzzles scientists: if it was a meteorite, where are its craters and the extraterrestrial matter?

5 A research team from Italy's University of Bologna led by Luca Gasperini pointed to small bowl-shaped 500-meter-diameter Lake Cheko as the impact crater. It is located some 8 km from the supposed ground zero of the Tunguska Event; it had not been marked on maps previously; seismic measurements of its bottom indicated that sediments had been building for around a century; and that the depth of the lake – which is shaped like a crater – was deeper than the typical one is for the region. They found out that there is dense stony matter beneath the floor and sediments, the remains of the exploding meteorite. They reported that seismic reflection and magnetic data revealed an irregularity close to the lake's center, less than 10 meters below the floor. They concluded that this irregularity was compatible with the presence of a buried stony object, which supports the notion that Cheko is an impact crater lake.

6 Russian scientists have now taken a closer look at Lake Cheko, and strongly disagree with the Italian theory. They suggest the area was badly mapped and there is nothing surprising about Cheko not appearing on old maps. Researchers from Krasnoyarsk assessed the age of the lake by analyzing its bottom sediments, undertaking geochemical and biochemical analysis. Also, their colleagues from the Institute of Geology and Mineralogy, Siberian Branch of The Russian Academy of Sciences completed radioscopic analysis of the core samples. Their study indicates that the deepest sample they obtained is about 280 years old, which means that the lake is probably even older than the event itself.

7 Other investigations have shown small traces of silicate and magnetite in the soil in the Tunguska Event area; **these** were high in nickel. The most likely theory appears to be that the celestial objects exploded and were destroyed in the atmosphere to the extent that only tiny particles of cosmic dust ended up on the surface. This analysis pointed toward the explanation of a meteoroid of asteroid origin, according to BBC, which was destroyed as it plunged through Earth's atmosphere. More recent studies, including one in 2013, confirm that rock samples found in the area are in fact of meteoric origin with traces of a carbon mineral called lonsdaleite, which is known to form when meteorites crash into Earth. However, to other studies, these findings do not

definitively explain the mysterious explosion – with meteor showers that frequently occur, these samples could be the remains of a much smaller, unnoticed event.

8 If the Tunguska explosion did not cause this magical lake to form, what did? It does not appear to be too ancient. To some degree, the Tunguska Event still remains a mystery, which scientists are continually working to solve. But, whether it is the result of a comet or asteroid, most agree that the explosion was caused by a large cosmic body hitting into Earth’s atmosphere.

### Questions

- A. Answer each of the following questions in 2- 4 complete sentences in your own words.
1. Based on Paragraph 3, state two different interpretations provided about Tunguska explosion. (01)
  2. Based on Paragraphs 5 and 6, how do the Italian team and the Russian scientists view the relation between Lake Cheko and the Tunguska Event? Explain. (01)
  3. Based on Paragraph 7, explain how the scientific findings have contributed to the puzzling situation of Tunguska Event. (01)
  4. In reference to Paragraph 8, which theory about Tunguska Event does the writer support? Justify. (01)
- B. 1. What two functions does the introductory paragraph serve? Justify your answer. (01)
2. In reference to Paragraph 2, identify the two similes used and the mood they stimulate. (1.25)
3. What is the thematic relation between Paragraphs 4 and 5? Justify your answer. (01)
- C. The following statements are **false** because they misinterpret the information stated or implied in the selection above. Rewrite them correctly. (01)
1. The Russian’s economic instability made the investigations in Tunguska difficult.
  2. The Russian team analyzed the sediments beneath the lake and discovered that the lake is about 171 years older than the explosion.
- D. Each of the following extracts (A and B) is the correct ending of ONE paragraph in the selection above. Read them carefully, and then choose from Paragraphs 1 to 8 the one that fits with each extract. (01)
- Extract A:** *Other sources assured that aliens had shot down a meteorite to destroy the planet.*
- Extract B:** *So geologically, the lake appears young, but not young enough to be a crater lake caused by Tunguska meteorite.*
- E. Based on contextual clues, infer the meaning of each word in the box below. Then fill in the blanks with the correct words to complete the following sentences. The words are underlined in the selection. (02)

strewn (Par. 1)	trembled (Par. 2)	speculated (Par. 3)	asserted (Par. 3)	plunged (Par. 7)
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1. A French naturalist has \_\_\_\_\_ about the formation and the course of the earth and solar system.
  2. Due to the earthquake, the whole area \_\_\_\_\_, and many buildings were destroyed.
  3. In 1994, a comet broke apart, and \_\_\_\_\_ into Jupiter, causing huge holes in its surface.
  4. After the bombing, the reporters \_\_\_\_\_ that many people were killed.
- F. What does each of the following pronouns, **bold-typed** in the selection above, refer to? (0.75)
1. **it** (Paragraph 2)
  2. **these** (Paragraph 7)
  3. **it** (Paragraph 8)

### Part Two: Writing (Choose ONE of the two prompts below.) (Score: 08/20)

**Prompt A:** “Virtually, it is impossible to prevent natural disasters, but we can lessen the severity of the impact they have on every aspect of our lives.” In a well-organized essay of 250-300 words, illustrate the statement above, shedding light on practical ways that might minimize the damaging effects (economic, social, and/or health) of natural disasters such as tsunami, hurricane, earthquake, etc.

**Prompt B:** *The government that does not have basic knowledge of the community’s social, economic, infrastructure, and environmental needs should be held responsible for the death and damage caused by natural disasters.* In a well-organized persuasive essay of 250-300 words, support the statement above, using appropriate pieces of evidence such as facts, real-life examples, etc.

[Content and organization of ideas (3.5), language and style (3.5), tidiness and legible handwriting (01)]

### Lake Cheko and the Tunguska Event: Impact or No Impact?

Q	Answer Key	Score
I-A-1	<p>The first interpretation is that the explosion was the result of a meteorite/ icy comet/ volcanic eruption/ UFO. Another interpretation is that the explosion was caused by the lord of thunder.</p> <p><b>(Any two interpretations are enough; 0.5 for each)</b></p>	01
I-A-2	<p>The Italian team and the Russian scientists have opposite views. According to the Italians, Lake Cheko is connected to a meteorite explosion, and that is due to many pieces of evidence: it was not marked on the map before the event, the depth of the lake looked like a crater, it is deeper than other lakes in the region, and there were remains of an exploding meteor near its floor. However, the Russian scientists believe that Lake Cheko did not result from the explosion as the Italians claim, and this is due to many facts: the lake had existed before it was marked on the map, and it was shown that the lake is years older than Tunguska Event.</p> <p><b>(0.5 for each view with its support; one support for each is enough)</b></p>	01
I-A-3	<p>Both the investigations reported by BBC and the recent studies have shown that the area of the event contains particles of meteoric origin, the fact that supports the theory of a meteorite explosion in the Earth's atmosphere. On the other hand, other studies refute this result (or theory), claiming that the remains are not necessarily due to meteorite explosion since the area has been subjected to many meteor showers. Thus, because some studies (scientific findings) support certain scientific theories while others refute them, the situation remains puzzling.</p> <p><b>(0.5 for the explanation and 0.5 for the result)</b></p>	01
I-A-4	<p>The writer, indirectly, supports the theory of meteorite explosion. That is shown through raising a (skeptical) question about a reason, other than the explosion, behind the event. Second, the writer states that the lake is not a very old one. In addition, he highlights the fact that the majority is convinced that the event is caused by an explosion of a huge cosmic body.</p> <p><b>(0.5 for the theory he supports and 0.5 for two pieces of evidence)</b></p>	01
I-B-1	<p>First, the introductory paragraph introduces the selection's main idea: the mysterious event of Tunguska has challenged the scientists for many years, but has not been solved yet. Second, it provides background information about the event: its location (in Siberia's most remote areas), date (June 20, 1908), strength (equivalent to 185 Hiroshima bomb), and its disastrous/ damaging effects (2000 km<sup>2</sup> of forest was flattened, 80 million trees were uprooted, and thousands of reindeer bodies were</p>	01

	burned). Third, it attracts the reader’s attention towards the mysterious event of the Stony Tunguska River (or arouses his curiosity to know more about this puzzle). It also helps the writer achieve credibility through the use of facts, numbers, dates, and names related to the Tunguska Event. <b>(two functions are enough; 0.5 for each with its justification)</b>	
<b>I-B-2</b>	The first simile the writer uses is when he compares the power of Tunguska explosion to “Armageddon”, which is a furious war between good and evil forces. The second simile used is when he compares the sound of the crash to that of “stones falling from the sky or guns firing”. The two similes stimulate a mood or sense of horror/fear/panic. <b>(0.5 for identifying each simile and 0.25 for describing the mood)</b>	<b>1.25</b>
<b>I-B-3</b>	The thematic relation between Paragraphs 4 and 5 is that of question-answer. At the end of Paragraph 4, the writer raises a question about the remains or the results of meteorite explosion at Tunguska. In Paragraph 5, by referring to the Italian team’s investigation, an answer is offered when the team concluded that Lake Cheko is an impact crater lake due to the meteorite remains found beneath it. <b>(0.5 for the identification and 0.5 for justification)</b>	<b>01</b>
<b>I-C-1</b>	The Russian’s <b>political</b> instability made the investigations in Tunguska difficult.	<b>0.5</b>
<b>I-C-2</b>	The Russian team analyzed the sediments <b>at the bottom of/ at the core of</b> the lake and discovered that the lake is about 171 years older than the explosion.	<b>0.5</b>
<b>I-D</b>	<b>Extract A</b> is the correct end of Paragraph 3. <b>Extract B</b> is the correct end of Paragraph 6. <b>0.5 for each</b>	<b>01</b>
<b>I-E-1</b>	speculated	<b>0.5</b>
<b>I-E-2</b>	trembled	<b>0.5</b>
<b>I-E-3</b>	plunged	<b>0.5</b>
<b>I-E-4</b>	asserted	<b>0.5</b>
<b>I-F-1</b>	“it” refers to a mega explosion	<b>0.25</b>
<b>I-F-2</b>	“these” refers to small traces of silicate and magnetite	<b>0.25</b>
<b>I-F-3</b>	“it” refers to Tunguska Event/ explosion	<b>0.25</b>
<b>II-A</b>	Content and organization	<b>3.5</b>
<b>II-B</b>	Language and style	<b>3.5</b>
<b>II-C</b>	Tidiness and handwriting	<b>01</b>