

**Part One: Reading Comprehension (Score24/40)**

*Read the following article where the writer raises the issue of cosmic collision and its consequences. Then, answer the questions that follow.*

**Threat from Space**

1 You look up in the sky and see something strangely bright. The object grows larger and brighter until, three hour later, it enters Earth's atmosphere. It is an asteroid igniting into a blinding fireball that strikes the surface of our planet seconds later. The impact generates enormous tsunamis that flood coastal regions. Dust and gas fly heavenward, and as they rain back down to Earth, the energy released heats the atmosphere to the extreme that land animals roast, forests burst into flames, and dust particles block out the sun .In the darkness, plants perish and animals starve. Earth plunges into a deep freeze.

2 Does this sound farfetched? Is our Earth at stake? This list of horrors, many scientists believe describes what happened ago when a meteorite six miles wide struck Mexico's Yucatan Peninsula 65million years ago with ten billion times the energy of the atomic bomb that destroyed Hiroshima. Some scientists believe the collision triggered a global mass extinction that **wiped out** two-thirds of Earth's species, including the dinosaurs.

3 Could it happen again? If so, when? Can we locate and destroy the attacker before it strikes? Such questions became pressing after July 1994,when a shattered comet collided with Jupiter .If Earth had been the target of this same comet ,scientists say ,the impact would have been a globally devastating event.

4 Our solar system is teeming with objects of all sizes-most of which pose no threat to Earth because they are too small or too distant. The two hazards are comets and asteroids. If either travels through Earth's atmosphere, it is called a meteor; if it lands on Earth's surface, it is a meteorite.

5 Asteroids are rocky or metallic objects ranging in size from particles to tiny planets nearly 600 miles across. Most orbit the Sun in the main asteroid belt between Mars and Jupiter -kept there by Jupiter's tremendous gravitational pull. Occasionally the gravitational tug of Jupiter can also **nudge** an asteroids course so that it orbits in a near –Earth path .An asteroid more than hundred feet in diameter plunged into Earth's atmosphere about 50,000 years ago and slammed into Arizona, creating meteor Crater one of Earth's best preserved impact structures.

6 Comets are composed of rock and dust bound together by ice. The ice changes to vapor when the comet nears the Sun, producing a long brilliant tail, sometimes extending millions of miles. A comet is thought to have a small sharp core called a nucleus ,surrounded by a cloudy disk called the

coma .Each year ,several unrecorded comets ,such as Hyakutake 1996 **blaze** through the inner solar system ,perhaps impelled by the gravitational pulls of nearby stars.

7 The first defensive step is to locate Earth –threatening objects and then calculate their orbits. Astronomers have so far discovered about two-thirds of the known near-Earth objects. These discoveries certainly suggest that we could face a surprise encounter with a large, previously **undetected** object.

8 If scientists managed to locate an asteroid or comet threatening Earth, what could be done? If the object was predicted to hit in only a few months, all we could do would be to plot where the impact would occur and attempt evacuations and civil defense-type measures. With more advance warning, it might be possible to deploy nuclear warheads to blow up the object while it is still in space. But there are drawbacks to such a strategy. The explosives must be enormously powerful in order to shatter the asteroid into fragments small enough to burn up in Earth’s atmosphere. A better strategy is deflecting the invader from its path by a series of one-megaton nuclear explosives. A small nudge can **deflect** an object a fraction of a degree off its collision course with Earth.

9 Most scientists involved in these studies agree that humans probably won’t be wiped out by an impactor in the next generation. It might be 100 million years in the future, but it could be tomorrow. Considering our descendants to do something about it.

**A. Answer each of the following questions in 1-3 sentences using your own words.(Score :7**

1. What is the difference between asteroids and comets?(**Score:02**)
2. What makes the observation of comets and asteroids a must according to astronomers? (**Score: 02**)
3. How, according to the text, may astronomers deal with such objects to avoid their threats? (**Score:02**)
4. Give two pieces of evidence from the selection to show that the collision of these objects might be very damaging? (**Score:02**)

**B. The following statements are false because they misinterpret the meaning conveyed in the above selection. Rewrite them correctly.(score:02)**

1. Our solar system is full of small and distant objects that might destroy the Earth.
2. If objects are blown in space then this will save the earth from explosion.

**C. Scan the article to mention two possibilities and two impossibilities of future collisions with Earth. Use phrases.(Score:02)**

| Possibilities | Impossibilities |
|---------------|-----------------|
|               |                 |
|               |                 |

**D.**

1. Identify the type of the introduction, and state two purposes it serves? (**Score:02**)

2. How does the writer achieve coherence between paragraphs 1 and 2? Justify your answer. (Score:02)
3. What technique does the writer use in paragraphs two and three .Explain the writers' purpose. (Score:02)
4. Identify the pattern of organization used in Paragraph 8.Justify your answer. (Score: 02)

**E. Paraphrase the underlined sentence in Paragraph one. (Score: 02)**

**F. Use contextual clues to figure out the meaning of each word in the box below. Then fill in the blanks with the correct words to complete the following sentences. (Score: 02)**

|                         |
|-------------------------|
| Wiped out(Paragraph 2)  |
| Nudge (Paragraph 5)     |
| Blaze (Paragraph 6)     |
| Undetected(Paragraph 7) |
| Deflect (Paragraph 8)   |

1. He spent too much money on this business until he had already -----his entire life savings.
2. She has to -----the horse with her heels to get it started.
3. He adjusted his helmet to -----the rain drops from blowing in his face.
4. The dry woods -----at the touch of a match.

**Part Two: Writing (Score: 16/40)**

Choose one of the following two writing questions and develop it fully.

1. The latest advance in the field of space exploration has benefits not only to human's curiosity of the great beyond but also for the future of the Earth and all of us living on it .It has brought many scientific discoveries and useful inventions as well. **In a well-organized essay of 250-300 discuss two positive effects of outer space exploration.**

See that, in your introduction, you put your reader in the general atmosphere of your topic and clearly provide a thesis statement; and that each of your body paragraphs starts with a topic sentence which you back up with relevant supporting details.

2. We can't stop disasters but we can arm ourselves with knowledge; so many lives wouldn't have to be lost if there was enough disaster preparedness. **Discuss two measures man should take to improve life conditions on our earth and postpone the drastic effects of disasters.**

See that, in your introduction, you put your reader in the general atmosphere of your topic and clearly provide a thesis statement; and that each of your body paragraphs starts with a topic sentence which you back up with relevant supporting details.

*(07 content and organization of ideas, 07language and style, 02tidiness and handwriting)*

*Best Wishes*



Mid Year Exam

Grade 12 ( LS + GS)

**Answer key**

**A.**

- 1. Asteroids are rocky or metallic objects that vary in size from particles to tiny planets nearly 600 miles across and are kept in the sun’s orbit by Jupiter gravitational pull .On the other hand, comets are composed of rock and dust pulled together by ice which changes to vapor and produces a long brilliant tail as the comet nears the sun. (2pts)**
- 2. Our solar system is teeming with such objects that pose a threat to Earth .If any meteor hit Earth, the results would be devastating .Concrete evidence could be observed in the effects of the meteorite that struck Mexico’s Yucatan Peninsulas 65 million years ago ,or the asteroid that hit Arizona 50,000 years ago.(2pts)**
- 3. They ought to locate them early enough in order to take action .In this case, they may deflect the object, and in this way, they will change its collision course. (2pts)**
- 4. One piece of evidence is that a meteorite six miles wide struck Mexico's Yucatan Peninsula 65 million years ago with ten billion times the energy of the atomic bomb that destroyed Hiroshima. Another piece of evidence is that an asteroid more than hundred feet in diameter plunged into Earth’s atmosphere about 50,000 years ago and slammed into Arizona, creating meteor Crater one of Earth’s best preserved impact structures. (1pt for each evidence)**

**B.**

- 1. Our solar system is full of small and distant objects that pose no threat to Earth.**
- 2. If objects are blown in space they might burn up in the earth’s atmosphere and pose a great threat.**  
*(1pt each)*

**C.**

| <b>Possibilities</b>                             | <b>Impossibilities</b>                       |
|--------------------------------------------------|----------------------------------------------|
| <b>Occasionally the gravitational...path. P5</b> | <b>Our solar system...distant. P4</b>        |
| <b>These discoveries...object. P7</b>            | <b>Most orbit.....pull. P5</b>               |
| <b>Or Considering....about it. P9</b>            | <b>Or Most scientists.....generation. P9</b> |

*(0.5 each, accept any reasonable answer)*

**D.**

- 1. The author starts with a surprising fact .It grabs the reader’s attention, arouses the reader’s curiosity, introduces the topic... (1 for the identification, 1 for the purposes)**
- 2. The writer observes coherence between paragraphs one and two by using indirect link which is the pronoun (this). It refers to the list of surprising facts presented in paragraph one. (2pts)**
- 3. The writer raises questions to engage the readers with the text and make them anticipate answers. She also presents facts and scientific opinions to help the audience consider the idea and take later action. (1 for the technique, 1 for the purpose)**
- 4. It is a cause effect pattern. The evidence is” If the object was predicted..... civil defense-type measures would be taken, etc...(1for the pattern, 1 for the justification)**

**E. Suggested answer: In the article entitled “Threat from Space”, the author says that dust and gas go upward but when they drop back to Earth their energy heats the atmosphere and causes animals to burn, forests to catch fire and dust particles to conceal the sun. (0.5 for the citation,1.5 for the paraphrase.)**

**F.**

- 1. Wiped out**
- 2. Nudge**
- 3. Deflect**
- 4. Blaze**

**(0.5 each)**