FEEDBACK TUTORIAL LETTER

2ND SEMESTER 2019

ENGLISH IN PRACTICE
(EPR511S)
TEST 1: MEMORANDUM
Asteroid mining could be the next big thing in space — but we’re not ready
by VISHWAM SANKARAN — 3 months ago in SPACE

On 30 June 1908, Earth had one of the most significant encounters with an asteroid in recent history. The space rock which measured about 130 ft wide, exploded in the atmosphere above the Podkamannaya Tunguska River in Siberia, decimating nearly 800 square miles (2,072 kilometers) of forest area. Luckily, it landed far away from human habitations. Had the asteroid flown by 6.5 hours later, it would have struck Berlin and changed the course of human history. On this day every year, in remembrance of the Tunguska Event, we observe what’s called World Asteroid Day.

While today, we could reflect on the potential devastation that can be caused by these space rocks, recent developments in technology have enabled us to look at asteroids as a valuable resource for extracting minerals. The companies currently in contention of being two of the best in the asteroid mining industry are Planetary Resources headquartered in Washington, and the California based, Deep Space Industries. Leading the charge among countries is the tiny European nation of Luxembourg, which some are calling the Silicon Valley of asteroid mining. Luxembourg has committed to spending at least $230 million to support asteroid mining companies in exchange that they set up offices in Luxembourg.

There’s plenty of money to be made with ventures like these. For instance, NASA aims to probe the asteroid 16 Psyche, located in the asteroid belt region between Mars and Jupiter. The iron extractable from the asteroid alone would be worth $10,000 quadrillion. In comparison, all the money in circulation on earth is valued at $60 to $75 trillion. The value of minerals from such space rocks will be so huge that experts have warned it could destroy the prices of commodities and cause the world’s economy to collapse.

You might wonder how feasible extracting minerals from an asteroid would be, given the huge amounts of fuel required in space missions, and the volume of minerals that spaceships can carry back to earth. These are questions that are expected to be answered as the necessary technologies progress in the space industry. But the mineral value of asteroids is indisputable.

Peter Diamandis, co-founder of Washington-based Planetary Resources, Inc. explained:
Many of the scarce metals and minerals on Earth are in near-infinite quantities in space. As access to these materials increases, not only will the cost of everything from microelectronics to energy storage be reduced, but new applications for these abundant elements will result in important and novel applications.

Many prominent personalities from various fields have contributed funding and advice for the future of asteroid mining, including the likes of Google’s Larry Page and Eric Schmidt, Microsoft pioneer Charles Simonyi, filmmaker James Cameron, early Google investor Ram Shriram, and investor Ross Perot Jr.
The Guardian reported that in April last year, Goldman Sachs wrote a letter to clients stating that asteroid mining “could be more realistic than perceived” with rapid declines in the cost of rocket launches, and the huge quantities of minerals in space rocks.

A major challenge facing this industry at this stage is the creation of a legal framework of property ownership for resources beyond our planet. Do products of mining belong to private companies or individuals investing in the act, or do we classify asteroids as property common to all countries, like trans-boundary ocean waters?

While countries like the US and Luxembourg have passed bills giving companies the rights to resources they extract from asteroids or other celestial bodies, no international consensus has been arrived at in this regard. Many international space and legal experts are against the notion of individual nations holding the power to permit private organizations to mine in space.

Tackling this problem involves taking another look of the Outer Space Treaty (OST) of 1967, with asteroid mining seeming a possibility. The treaty, ratified by nearly 100 countries, prohibits any nation from staking claim over celestial bodies or using them for military operations.

While the OST has no mentioning of asteroid mining, some countries like Russia, Brazil and Belgium are opposed to the idea of extraction, since the process requires “national appropriation” of asteroids which is clearly banned by the treaty. So, some countries hold that there must be an international licensing body that oversees the global sharing of benefits from mining, before private entities jump into the space.

To plug this gap between treaty obligations in space resource rights, and the policies adopted in individual countries, The Hague International Space Resources Governance Working Group was formed by the International Institute of Air and Space Law in December 2014. The aim of the Working Group is to recommend a stringent space policy to the UN that takes into account space mining.

In September last year, the Working Group began circulating a preliminary draft of the policy titled “Draft Building Blocks for the Development of an International Framework on Space Resource Activities”, for an international framework on space resource activities, and the laws that would govern them. The draft mainly calls for a sharing of benefits arising out of the utilization of space resources, and the establishment of an international fund for space mining. But it also states that monetary benefit-sharing is not compulsory, and adds that operators should be encouraged, but not required to share benefits. With private companies eager to get started on drilling into asteroids, the need of the hour is to adopt a revamped international policy that supports fair utilization of resources from asteroids.

1.1 What is the purpose of World Asteroid Day? It is in remembrance of the Tunguska Event.

1.2 Name four possible advantages of asteroid mining.

- The mineral value of asteroids is indisputable.
- Many of the scarce metals and minerals on Earth are in near-infinite quantities in space.
- The cost of everything from microelectronics to energy storage be reduced
- New applications for these abundant elements will result in important and novel applications.
1.3 How might the economy be negatively impacted by the value of space minerals? (2)
   - The world's economy can collapse.

1.4 Which challenges will companies have to make provision for when planning to extract minerals from asteroids? (2)
   - Huge amount of space fuel required
   - The volume of minerals that spaceships can vary back to earth.

1.5 Which aspects, according to Goldman Sachs, make asteroid mining a real possibility? (2)
   - Rapid declines in cost of rocket launches, and
   - The huge quantities of minerals in space rocks.

1.6 Which two main issues will have to be clarified legally in order to regulate space mining? (2)
   - Creation of a legal framework of property ownership for resources beyond our planet.
   - Do products of mining belong to private companies or individuals investing in the act, or do we classify asteroids as property common to all countries, like trans-boundary ocean waters?

1.7 Why would the Outer Space Treaty have to be modified in order to accommodate space mining? (2)
   - The OST has no mentioning of asteroid mining.

1.8 Why, according to the author are we not ready for asteroid mining? (2)
   - The need of the hour is to adopt a revamped international policy that supports fair utilization of resources from asteroids.

1.9 Mention two possible flaws in the draft policy created by the Working Group. (2)
   - It states that monetary benefit-sharing is not compulsory
   - Adds that operators should be encouraged, but not required to share benefits.

1.10 Vocabulary: (5)

   For each of the terms below, choose the explanation that best describes the meaning of the word as used in the passage from the list given below the words. Write down only the letter of the meaning of your choice next to each word.

   (i) G  decimating  (iv) H  stringent
   (ii) B  feasible  (v) C  revamped
   (iii) E  abundant
The internet is a treasure trove of information. Practically anything you need to know can be found online. Although there is a question of the credibility of the sources and the data provided, it can still serve as an educational resource for students. Even without assistance from parents and teachers, students can just look up their lessons online.

Unlike regular textbooks, electronic books and web-based content are updated in real time, feeding students with the most current information they can get their hands on, helping them become more knowledgeable even outside the classroom setting.

From the way technological advancements are going at the moment, it is obvious that the future will be digital and technology-focused. If students are well-versed on using technology to collaborate and communicate as early as now, they will not have trouble fitting in, competing and finding jobs in the future. Being familiar with using at least one form of technology at an early age will help them become comfortable using it and eventually develop other skills necessary to handle other innovative devices and processes.


2.1 Change the verbs, numbered (i) to (iv) in the passage above, into the correct verb tense.

(i) found
(ii) provided
(iii) will be
(iv) will help/ helps

(4x2=8)
2.2 Identify whether the following sentences are in the active or passive voice. (3x2=6)

(i) Technology is used by students to achieve better results. Passive

(ii) Technology has changed the way students learn. Active

(iii) Spell checkers are preventing students from developing spelling skills. Active

2.3 Change the following sentences into reported speech. (4)

(i) Dr. Smith said, “Last year we created a system that makes the interactions with technology more meaningful.”

- Dr. Smith said that the previous year / the year before [1] they [1] had created [1] a system that made [1] the interactions with technology more meaningful.

**NOTE: NO MARKS IF QUOTATION MARKS ARE USED.**

2.4 Read the clause below. Rewrite and complete it as a third conditional sentence. (3)

If students use technology, ...

- If students had used [1] technology, they would have scored higher marks. (any suitable clause using would/could/might/should have + verb in past participle form [1])

2.5 Identify two gerunds and two infinitives from the passage above. (2x2=4)

(i) Gerunds: feeding, helping, using, fitting, competing, finding, being [2] (any 2)

(ii) Infinitives: to know, to collaborate, to communicate, to communicate, to handle [2] (any 2)
Section C: Essay

Write either an opinion or argumentative essay based on ONE of the following topics. You should write between 300 and 350 words (a page to a page and a half). Indicate the number of words used.

1. After gaining independence, many African countries were granted huge loans from foreign banks. How do you think African countries are affected by foreign debt?
2. Some countries are considering introducing a law that states that if children behave criminally their parents should accept responsibility for them and should also be punished. What are your views?
3. Discuss three reasons for the increase in divorce rates in the last three decades.
4. Describe three things you would like to change about the world and explain why you would change them.
5. For many potential students, NUST is the preferred learning institution. Argue the above statement in which you list the advantages and disadvantageous of being a students at the NUST.
6. To improve the quality of living for all its citizens our government needs to invest more money to create opportunities for the girl-child. Argue the pros and cons of focusing on only developing the quality of life of the girl-child in Namibia.
7. We live in the digital age where it is common to have children spend a lot of time in front of the television. It is quite natural for young people to model their lives after celebrities or Hollywood stars. Discuss the advantages and disadvantages of the Namibian youth wanting to live their lives like those of celebrities or Hollywood stars, who are their role models.
8. A society without financial discipline leads to a dependency syndrome. From an early age all Namibian children should be given jobs to do for which they are paid. This will help them to become financially independent from a young age. Argue the pros and cons of the above suggestion.

Use marking grid [50]