



YDT READING Master Plan



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Bu kitap T.C. Kültür Bakanlığı'nın bandrolü ile satılmaktadır.

“Gerçek başarı başkalarını başarılı kılmaktır.”

Deniz Pınar

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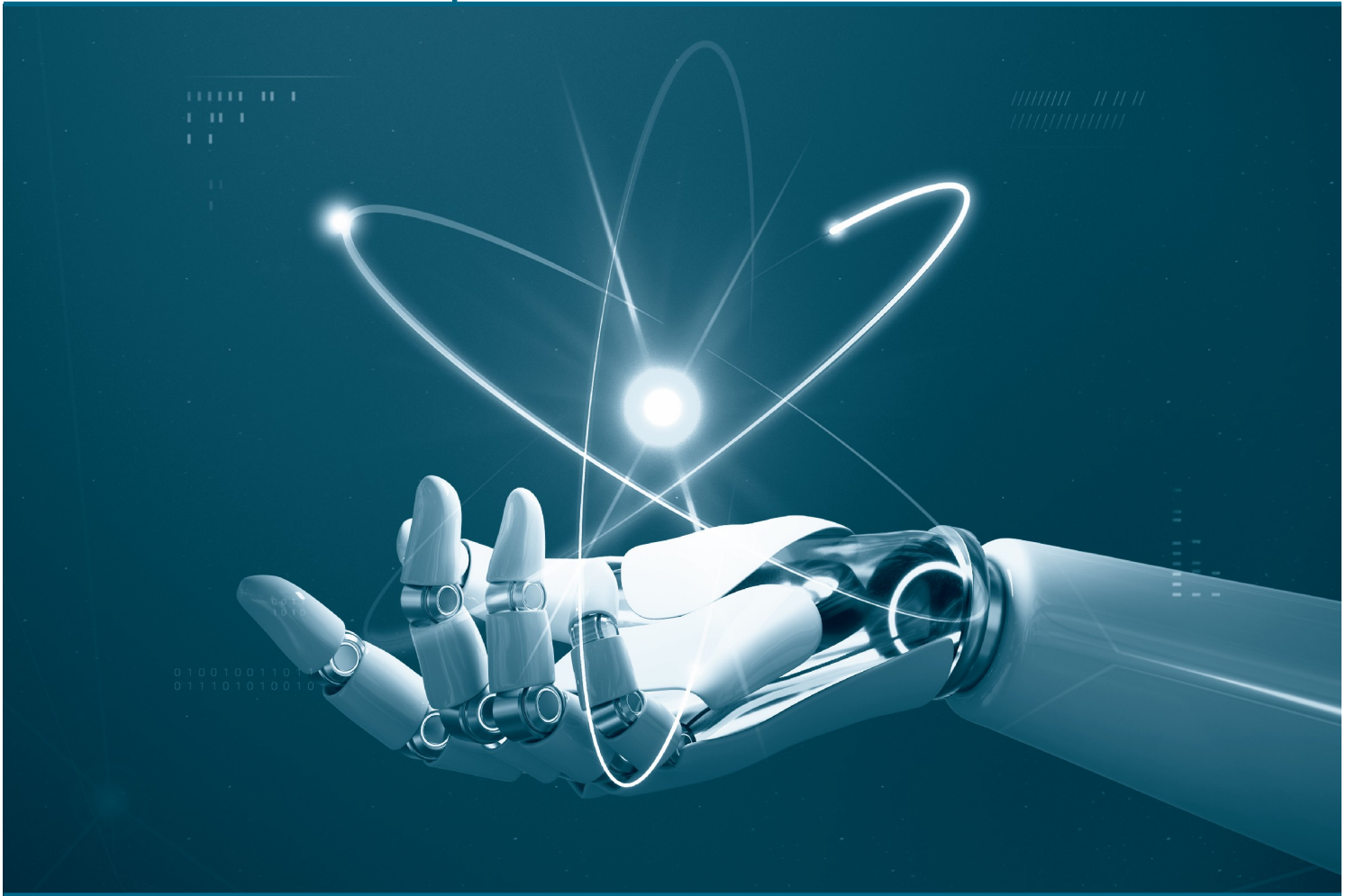
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SCIENCE &
TECHNOLOGY



PART 1

Space And Astronomy

Space & Astrology

1. - 3. soruları aşağıda verilen parçaya göre cevaplayınız.

The launch of the James Webb Space Telescope (JWST) marked a significant leap forward in our capability to observe the cosmos, yet it often invites comparisons with its predecessor, the Hubble Space Telescope. While Hubble has provided stunning images in visible and ultraviolet light for over three decades, JWST was designed primarily to view the universe in the infrared spectrum. This shift is crucial because the light from the earliest stars and galaxies has been stretched into infrared wavelengths by the expansion of the universe. Therefore, JWST can see objects that are far older and more distant than what Hubble can detect. Unlike Hubble, which orbits the Earth at a relatively close distance of approximately 550 kilometres, Webb operates from a location known as the second Lagrange point (L2), about 1.5 million kilometres away. This distant orbit keeps the telescope cool, which is essential for its sensitive infrared instruments to function correctly without interference from the heat radiated by the Earth or the Sun. Although both telescopes are marvels of engineering, their distinct capabilities ensure that they complement rather than replace one another, allowing astronomers to piece together a more complete history of the universe.

1. According to the passage, the primary reason the James Webb Space Telescope was designed to operate in the infrared spectrum is to ----.

- A) capture high-resolution images of planets within our own solar system
- B) replace the Hubble Space Telescope entirely by covering the same wavelengths
- C) detect light from ancient celestial bodies that has shifted due to cosmic expansion
- D) allow it to orbit much closer to the Earth than the Hubble Space Telescope
- E) function effectively without the need for the complex cooling systems used by Hubble

2. One can understand from the passage that the location of the James Webb Space Telescope at the second Lagrange point ----.

- A) makes it difficult for astronomers to send maintenance missions compared to Hubble
- B) is necessary to prevent heat from the Earth and Sun from disrupting its observations
- C) was chosen mainly to allow it to take clearer pictures in the ultraviolet spectrum
- D) allows it to communicate with Earth more rapidly than telescopes in lower orbits
- E) results in it having a much shorter operational lifespan than the Hubble telescope

3. What is the primary purpose of the author in this passage?

- A) To argue that the Hubble Space Telescope is now obsolete and should be retired
- B) To explain the technical difficulties involved in launching the James Webb Telescope
- C) To describe the history of space exploration from the 20th century to the present
- D) To highlight the differences in design and function between the Hubble and Webb telescopes
- E) To criticise the immense cost associated with the development of infrared telescopes

4. - 6. soruları aşağıda verilen parçaya göre cevaplayınız.

Terraforming Mars—the hypothetical process of deliberately modifying its atmosphere, temperature, and ecology to be similar to those of Earth—has long been a staple of science fiction, but it is also a subject of serious scientific debate. The primary goal would be to thicken the Martian atmosphere to support liquid water and, eventually, human life. For instance, scientists have proposed releasing greenhouse gases, such as carbon dioxide trapped in the Martian polar ice caps, to warm the planet. This warming could theoretically trigger a cycle where more ice melts, releasing more gas and further raising temperatures. However, the challenges are immense. Mars lacks a magnetic field to protect this new atmosphere from being stripped away by solar winds. Moreover, the sheer scale of geoengineering required is beyond current technological capabilities. While the concept offers a potential “Plan B” for humanity, critics argue that we should focus on preserving Earth’s biosphere rather than attempting to engineer a new one on a desolate world. Thus, while terraforming Mars is scientifically intriguing, it remains a distant and ethically complex possibility.

4. It can be inferred from the passage that releasing carbon dioxide from the Martian polar ice caps ----.

- A) is considered one of the potential methods to initiate the warming of the planet
- B) would immediately create a breathable atmosphere for human beings
- C) has already been attempted by scientists with limited success
- D) is impossible because Mars does not possess any frozen carbon dioxide
- E) would be sufficient on its own to generate a magnetic field around Mars

5. The passage points out that a major obstacle to successfully terraforming Mars is ----.

- A) the excessive heat that already exists on the planet’s surface
- B) the lack of scientific interest in the concept of planetary engineering
- C) the presence of too much liquid water which would hinder construction
- D) the absence of a protective magnetic field to retain the generated atmosphere
- E) the fact that greenhouse gases cannot physically exist in the Martian environment

6. What is the main aim of the passage?

- A) To prove that terraforming Mars is the only solution for human survival
- B) To introduce the concept of terraforming Mars and discuss its methods and challenges
- C) To describe the geological history of the Martian polar ice caps in detail
- D) To persuade governments to invest more money in space exploration technologies
- E) To argue that science fiction writers have accurately predicted the future of Mars

Space & Astrology

7. - 9. soruları aşağıda verilen parçaya göre cevaplayınız.

Since the dawn of the space age, humanity has launched thousands of satellites, rockets, and probes, leaving behind a vast cloud of defunct machinery known as space debris. This junk ranges from spent rocket stages to tiny flecks of paint, all travelling at velocities of up to 28,000 kilometres per hour. At such speeds, even a piece of debris the size of a marble can strike with the energy of a hand grenade. Consequently, active satellites and the International Space Station (ISS) are under constant threat of collision. Space agencies currently track over 20,000 pieces of debris larger than a softball, but millions of smaller, untrackable fragments exist. The real danger lies in the "Kessler Syndrome," a theoretical scenario where a collision between two large objects generates a cloud of fragments that triggers further collisions, eventually creating a debris belt that renders low Earth orbit unusable. To mitigate this, engineers are now designing satellites that can de-orbit themselves at the end of their lives, ensuring they burn up in the atmosphere rather than adding to the orbiting junkyard.

7. According to the passage, the speed at which space debris travels ----.

- A) makes it easy for scientists to capture and remove it from orbit
- B) prevents it from causing any significant damage to large spacecraft
- C) is relatively slow compared to the speed of modern rockets
- D) gives even very small objects a destructive force comparable to an explosive
- E) causes the debris to burn up immediately upon entering the Earth's atmosphere

8. It can be understood from the passage that the "Kessler Syndrome" refers to a situation where ----.

- A) satellites are designed to automatically avoid all incoming space junk
- B) the International Space Station is forced to de-orbit due to mechanical failure
- C) a single collision leads to a chain reaction that could make specific orbits inaccessible
- D) space agencies lose the ability to track objects larger than a softball
- E) the atmosphere of Earth expands and drags satellites down too quickly

9. Which of the following would be the best title for the passage?

- A) The History of Rocket Science
- B) How to Build a Satellite
- C) The Benefits of Space Exploration
- D) Mining Resources in Outer Space
- E) The Growing Threat of Space Debris