

## **17. Search of Life Outside Earth**

### **Exercise Questions**

#### **1. Question**

The meaning of the word 'alien' is:

- A. Magic
- B. animal of outside Earth
- C. Peculiar animal
- D. animal similar to caw

#### **Answer**

Any object or organism not present on the earth surface is referred as alien. In other words, any foreign organism.

#### **2. Question**

Life can be found outside the Earth:

- A. On any star
- B. anywhere
- C. On planet similar to the Earth
- D. on any planet

#### **Answer**

Earth is the only planet that has life. It has life because it has all the conditions required by any organism to grow and survive. So life outside is only possible when similar conditions are provided to the organisms.

#### **3. Question**

The first spacecraft to go outside the solar system was :

- A. Chandrayaan-2
- B. Mangalyaan
- C. Pioneer-one
- D. Pioneer-10

## **Answer**

The first spacecraft to go outside solar system was Pioneer-10. It is an American space probe launched in 1972.



**Artist's conception of Pioneer-10**

## **4. Question**

The instrument used to listen the whispering going on in the space are:

- A. Radio remote
- B. telescope instrument
- C. micro-scope instrument
- D. none of these

## **Answer**

Radio remote is a device used to listen whispering going in space. It is based on the phenomenon of remote sensing which is the acquisition of information about an object or phenomenon without making physical contact with the object and thus in contrast to on-site observation.

## **5. Question**

From which place sunrise can be seen 15 times in one day?

- A. At the poles
- B. At international space station
- C. At Mars

D. At Moon

**Answer**

The International Space Station travels at a rate of 17,100 miles per hour. That means it orbits Earth every 90 minutes—so it sees a sunrise every 90 minutes. Thus, every day, the residents of the ISS witness 16 sunrises and 16 sunsets.



The international space station

**6. Question**

Which place is there outside earth where human being can reside?

**Answer**

Human beings are the most advanced life forms existing today on Earth. Life on earth is only possible due to the environment it provides. Finding such nature of environment in outer space i.e. outside earth is difficult. Experiments are undergoing for stay at moon and mars.

**7. Question**

Which animal is responsible for creating the problem of global warming?

**Answer**

Grazing animals can be considered as one of the causes of global warming since they release methane in atmosphere.

**8. Question**

The Physical environment of the Earth and the organisms found on the Earth together act as a living unit. What is this hypothesis called?

**Answer**

The Physical environment of the Earth and the organisms found on the Earth together act as a living unit. This hypothesis is called Gaia hypothesis.

### **9. Question**

At the time of the formation of the planet like Earth, the environment was very hot and explosive. How much time would it have taken to cool down?

### **Answer**

At the time of the formation of the planet like Earth, the environment was very hot and explosive. It takes 50 million to 1 billion years to cool down to reach a temperature when life could possibly originate.

### **10. Question**

How many planets like Earth can be there in our galaxy 'milky way'?

### **Answer**

The galaxy that contains our solar system is called the Milky Way. Scientific researches show that there are more than a billion Earth-like worlds are present in our galaxy.

### **11. Question**

What is the meaning of world alien?

### **Answer**

Extra-terrestrial life i.e. the life form which has not originated on Earth. It must have invaded Earth from outer space is generally referred to as an alien.

### **12. Question**

How must the first life have originated on the Earth according to Darwin?

### **Answer**

According to Darwin's theory of evolution, life on Earth originated in the form of a hot sphere which gradually cooled down and then afterward environment was formed. Simple elements were present previously which combined via chemical reactions to form simple compounds which on further reaction resulted in complex compounds resulting in the formation of essential components of life such as carbohydrates, proteins etc. Suddenly a living organism originated which gave rise to present life forms by organic evolution.

### **13. Question**

What was the fear of the scientist at the time of launching Pioneer-10?

### **Answer**

At the time of the launch of Pioneer-10 scientists suffered from the fear that the civilization of outer space might attack the Earth as it might become angry due to some mistakes committed by them. Pioneer-10 had to go out of our solar system passing through Jupiter. Developed civilizations could counterattack Earth assuming it as an attack by human civilization.

#### **14. Question**

What is the meaning of constructive and destructive forces?

#### **Answer**

**Destructive Force-** the force or process by which rock is broken down, such as erosion and weathering either through the violent actions of volcanoes and earthquakes or by the steady flow of a river.

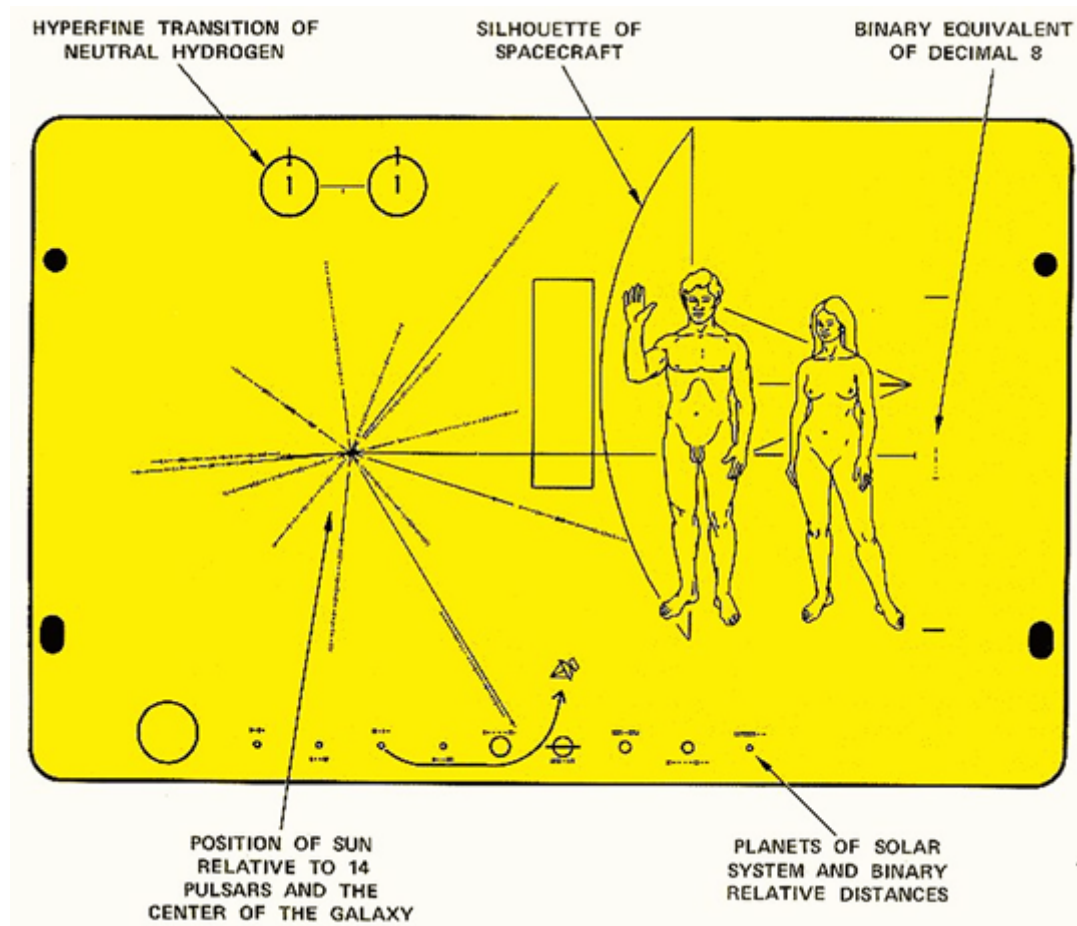
**Constructive Force-** processes that help build up the earth, either by depositing soil or silt in a river or by volcanoes and lava flows that generate new land.

#### **15. Question**

What was the human thinking about the organisms the earth at the time of launching Pioneer-10? What measures were taken for protection from this imaginary problem?

#### **Answer**

At the time of the launch of Pioneer-10 scientists thought rather suffered from the fear that the civilization of outer space might attack the Earth as it becomes angry due to some mistakes committed by them. Pioneer-10 had to go out of our solar system passing through Jupiter. Developed civilizations could counterattack Earth assuming it as an attack by human civilization. To remove this misunderstanding human male and female were drawn in friendship gesture on a plate attached to Pioneer-10 and it was shown in the sign language that this spacecraft has been sent from Earth.



The plate attached to Pioneer-10 to send a peace message to aliens.

## 16. Question

Explain your daily routine thinking that you are in international space station.

## Answer

The idea of a "day" on board a circling rocket is somewhat theoretical: at regular intervals, space explorers on board the ISS will encounter 15 day breaks as the station speeds far and wide. In any case, people have been adapted by a great many long periods of development to a 24-hour everyday cycle, thus called circadian rhythms of waking and dozing are hard-wired into our brains and bodies. So space traveler's work and rest to settled timetables that match these antiquated rhythms. Some other plan would before long have teams living in a condition of perpetual jet lag.

## 17. Question

Describe the important scientific view regarding the international space station.

## Answer

The International Space Station (ISS) is a multi-country development venture that is the biggest single structure people at any point put into space. Its primary development was finished in the vicinity of 1998 and 2011, in spite of the fact that the station constantly advances to incorporate new missions

and trials. It has been persistently possessed since Nov. 2, 2000. The fundamental motivation behind the International Space Station is to give a global research facility to tests inside the space condition. Which, in spite of all our innovative advances, is about difficult to reproduce here on Earth. Scientific research on the International Space Station is an accumulation of investigations that require at least one of the strange conditions introduce in low Earth circle. The essential fields of research incorporate human research, space solution, life sciences, physical sciences, cosmology, and meteorology.



ISS

### **18. Question**

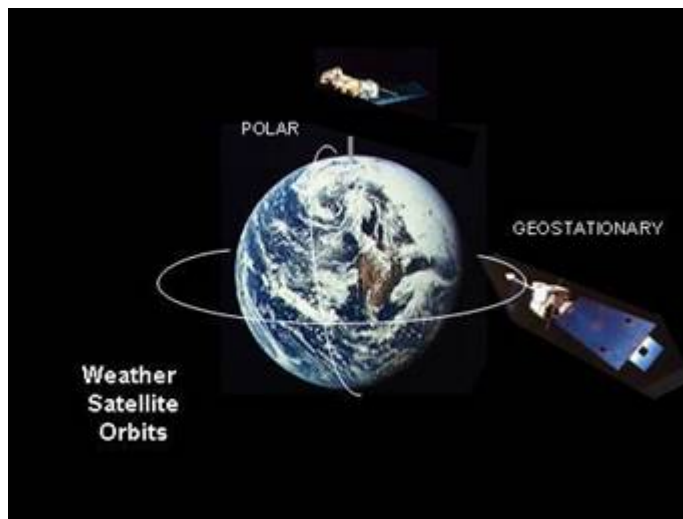
Describe the importance of satellites in detail.

### **Answer**

A satellite is a counterfeit protest which has been purposefully put into space. Such protests are some of the time called artificial satellites to recognize them from natural satellites, for example, Earth's Moon.

Satellites can be used in:

- Navigation
- Earth observation
- Communication
- Weather forecasting



Weather satellite

### 19. Question

Describe the importance of Indian in the world space campaign.

### Answer

- i. In India, space research was started in 1948 in the form of Physical search laboratory at Ahmedabad. The Indian Space Research Organization (ISRO) is the space office of the Government of India headquartered in the city of Bangalore.
- ii. Its vision is to "bridle space innovation for national advancement while seeking after space science looks into and planetary exploration." ISRO assembled India's first satellite, Aryabhata, which was propelled by the Soviet Union on 19 April 1975.
- iii. It was named after the Mathematician Aryabhata. In 1980, Rohini turned into the principal satellite to be set in a circle by an Indian-made dispatch vehicle, SLV-3. ISRO in this manner created two different rockets: the Polar Satellite Launch Vehicle (PSLV) for propelling satellites into polar circles and the Geosynchronous Satellite Launch Vehicle (GSLV) for putting satellites into geostationary circles. These rockets have propelled various correspondences satellites and earth perception satellites.
- iv. Satellite route frameworks like GAGAN and IRNSS have been conveyed. In January 2014, ISRO utilized an indigenous cryogenic motor in a GSLV-D5 dispatch of the GSAT-14.
- v. ISRO sent a lunar orbiter, Chandrayaan-1, on 22 October 2008 and a Mars orbiter, Mars Orbiter Mission, on 5 November 2013, which entered Mars orbit on 24 September 2014, making India the first nation to succeed on its first attempt to Mars, and ISRO the fourth space agency in the world as well as the first space agency in Asia to reach Mars orbit.