

Subject- S. S. T Class-6 Topic- Discovery Of Universe
Learn and Write

1. Choose the correct options.

(a) When was India's first artificial satellite launched?

(i) 1960 (ii) 1975 (iii) 1947 (iv) 1985

(b) In Rajasthan the ancient Jantar Mantar Observatory is located at

(i) Udaipur (ii) Kota (iii) Jaipur (iv) Jodhpur

2. Fill in the blanks.

(a) Aryabhata was ancient India's great Astronomer

(b) The credit of giving momentum to Indian space programme goes to Vikram Sarabhai

(c) The velocity required to escape the gravitational force of the earth is 11.2 kms/sec.

(d) Aryabhata is the name of the first artificial satellite sent into space by India.

3. Write the names of the main astronomers of India. Rakesh Sharma, Kalpana Chawla

4. In ancient times from where did the space research begin in the world?

5. When and why were the pyramids of Egypt made? P-24

6. Discuss the contribution of Aryabhata to astronomical researches. P-25

7. What is a telescope? Write about its advantages.

8. Which mathematician and geographer of Greece calculated the actual circumference of the earth for the first time? P-25

9. Mention about the main astronauts of the world along with their work.

Additional Questions For Practice

A. Multiple Choice Questions (MCQs) – Tick (✓) the correct options.

1. The table of stars was developed in

(a) Saudi Arabia (b) China (c) India

2. wrote *Siddhanta Shiromani*.

(a) Aryabhata (b) Bhaskaracharya II
(c) Sushrut

3. Artificial are bodies sent by scientists into space.

(a) planets (b) satellites (c) stars

4. was the first man to place his foot on the moon.

(a) Rakesh Sharma (b) Yuri Gagarin
(c) Neil Armstrong

5. The Atomic Energy Department of India set up ISRO under the leadership of

(a) Homi Jehangir Bhabha (b) Vikram Sarabhai
(c) Kalpana Chawla

B. Fill in the blanks.

1. Copernicus proved that the Sun was the centre of the solar system.
2. Aryabhata calculated the circumference of the Earth to approximately 24835 miles.
3. The biggest telescope in India is set up in Udaipur.
4. The Sameat yantra is the highest Yantra invented by Sawai Jai Singh.
5. Sputnik-1 was the first artificial satellite to be launched in space by Russia.
6. The purpose of Aryabhata satellite was to study the atmosphere.

C. Match the following.

- | | |
|------------------|--------------------------------|
| 1. Mars-craft | (a) circumference of the Earth |
| 2. Ptolemy | (b) Soyuz T-II |
| 3. Eratosthenes | (c) November 2013 |
| 4. Aryabhata | (d) Greek philosopher |
| 5. Rakesh Sharma | (e) lunar eclipse |

D. Very Short Answer Questions

1. Why are telescopes being connected to computers? P-26
2. What is MAST utilised for? P-26
3. Which telescope has been established to study the mysteries of space? P-26
4. Define artificial satellites. P-27
5. Who was Kalpana Chawla? P-28
6. What was special about Sputnik II? P-27

E. Short Answer Questions

1. Write the two things included in *Siddhanta Shiromani*. P-25
2. Name the three instruments invented by Sawai Jai Singh. Jantar Mantar, P-26
3. What is the aim of ISRO? P-28
4. List four functions performed by satellites. Make it

F. Long Answer Questions

1. Why do artificial satellites never come back to the Earth despite gravitational force? P-2
2. Why are artificial satellites important for us?
3. Explain the development of the field of Space Science in India. P-29
4. Write a short note on the 'Mars Orbiter Mission' of India. P-29

2. MAST is utilised for studies related to Sun.
3. The name of the telescope is Hubble.
4. Artificial satellites are bodies sent by scientists into space. These bodies revolve around the Earth and help in research.
5. Kalpana Chawla was the first Indian woman and the second Indian who travelled into space. She was a research scientist and an astronaut.
6. The first living being, a female dog named Laika was sent into space in Sputnik II.

E. Short Answer Questions

1. Two things included in *Sidhanta Shiromani* are:
 - The Earth is round.
 - It attracts everything towards it.
2. Sawai Jai Singh also invented three instruments:
 - Samrat Yantra
 - Jai Prakash Yantra
 - Ram Yantra
3. It aims to harness space technology for national development while pursuing space science research and planetary exploration.
4. Satellites are used for predicting seasons, spying and other Earth information. They predict natural disasters that is useful in the management of agriculture, forest and water resource planning. Spectrums of telephone, television and radio are transmitted via these satellites.

F. Long Answer Questions

1. Any object that goes upwards away from the Earth, falls back due to the Earth's gravitational force. When a satellite is launched through a rocket it does not come back to the Earth. This happens because the rocket is launched with a force greater than the Earth's gravitational force.
2. These artificial satellites are very important for us. They predict natural disasters, that is useful in the management of agriculture forest and water resource planning. Spectrums of telephone, television and radio are transmitted via these satellites.
3. India took the initiative and in 1984, Rakesh Sharma (From Indian Air Force) travelled into space. He travelled in Soyuz T-11 along with two Russian astronauts.

Kalpana Chawla was a research scientist and a famous astronaut. She was born in the Karnal district of Haryana in the year 1961. Kalpana Chawla was the first Indian woman and the second Indian who travelled into space. She along with six other

associates, met with a tragic end in 2003, as the spacecraft Columbia crashed while returning from space. Also, Sunita Williams an American citizen of Indian origin has set a record of spending maximum time in space.

4. For collecting information on Mars, India launched a spacecraft named Mangalyaan also called Mars-craft from Satish Dhawan Space Centre situated at Sriharikota of Andhra Pradesh in November 2013. It travelled for almost 11 months and in September 2014, entered Mars' orbit. India has become the first country to establish a satellite in Mars' orbit in its first attempt. Like-wise, a spacecraft named the Moon-craft (Chandrayaan-1) was launched to the moon in October 2008 to study the moon.