

St. Andrews Scots Sr. Sec. School

9th Avenue, I.P. Extension, Patparganj, Delhi – 110092

Session: 2023 - 2024 - NOTES

Class - VII **Subject** - English Literature **Topic** – India's Pride – Mangalyaan

C. Answer the following questions briefly-

Read and Understand

A. 1. (a) 2. (d) 3. (b) 4. (b) 5. (c)

B. B. 1. F 2. T 3. F 4. T 5. T

C. 1. The word Mangal means Mars and yaan means craft. Therefore, Mangalyaan means Mars-craft.

2. Mangalyaan was launched on 5 November 2013 on a Polar Satellite launch Vehicle (PSLV-25) from the Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh..

3. The budget of the Mangalyaan mission was 4.5 billion rupees or \$75 million only.

4. ISRO's goal is to use space-based technology to foster national development. 5. Mangalyaan reached Mars' orbit on 24 September 2014.

D. 1. (a) Mangalyaan, India's first interplanetary mission, is the remarkable achievement.

(b) The track record that is being referred to here is that nearly half of all attempted missions to Mars have failed. 2. (a) The images of the far side of Deimos were captured by Mars Colour Camera (MCC).

(b) Deimos is the smaller of Mars' two moons.

E. 1 . Mangalyaan mission is remarkable in the following ways:

(a) It is India's first interplanetary mission.

(b) India became the first country to put a spacecraft in orbit on another planet on its first attempt.

© India accomplished this feat on a small budget of just 4.5 billion rupees (US \$75 million). It took Indian scientist less than two years to build the spacecraft.

(d) Mangalyaan's high resolution camera took full-disk colour imagery of Mars. Very few full-disk images have ever been taken in the past, mostly on approach to the planet.

2. The different stages of planning before the Mars project became a reality were: • On 23 November 2008, an unmanned mission to Mars was announced by the- then ISRO chairman G. Madhavan Nair.

The MOM (Mars Orbiter Mission) concept began with a feasibility study in 2010 by the Indian Institute of Space Science and Technology after the launch of lunar satellite Chandrayaan-1 in 2008.

3 The ISRO (Indian Space Research Organisation) was formed in 1969. At that time, India had been independent for two decades, rapidly modernising and eager to establish a sense of self-reliance. The leaders of the country understood that investing in space would help India build a telecommunications infrastructure, monitor its weather, survey its agriculture and natural resources and conduct basic scientific research. ISRO's goal is to use space- based technology to foster national development.

ISRO is presently one of just six government organizations around the world that can design, launch and recover satellites and operate space probes.

4. The objectives of the Mangalyaan mission are:

- To study the Martian atmosphere.
- To explore Mars' surface features, mineralogy, morphology and atmosphere using indigenous scientific instruments.
- To develop technologies needed to plan, design, manage and operate interplanetary mission.
- To measure methane in the Martian atmosphere.

5. Mangalyaan has become a part of the popular culture of India in the following ways:

- Mangalyaan has made every Indian proud. The movie 'Mission Mangal' starring bollywood actor Akshay Kumar released on 15 August 2019, was based on India's Mangalyaan mission.

- The image of Mangalyaan features on the 2,000-rupee note.

6. The future plans of ISRO with regard to the Red Planet are:

- ISRO now plans to develop and launch a follow-up mission called Mars Orbiter Mission 2 (MOM-2 or Mangalyaan 2) in 2024. It will have an upgraded orbiter, and a scientific payload of 100 kg. Mangalyaan 2 will launch after the first Mars Rover missions from China and the European Space Agency, and alongside NASA's Mars fleet.