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**Q.1) 'Chang'e 4' is a lunar exploration mission that aims to achieve the first soft-landing on the far side of the Moon. It is launched by**

- a) India
- b) China
- c) US
- d) Japan

**Q.1) Solution (b)**

Chang'e 4 is a Chinese lunar exploration mission that aims to achieve the first soft-landing on the far side of the Moon.

Source: <https://economictimes.indiatimes.com/news/science/change-4-in-space-first-china-launches-rover-to-far-side-of-the-moon/the-mission/slideshow/66998670.cms>

**Q.2) Consider the following statements with respect to 'VISIONS-2 mission'**

1. It aims to explore how the Earth's atmosphere is slowly leaking in to space
2. It is a joint mission by ISRO and NASA

**Select the correct code:**

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

**Q.2) Solution (a)**

NASA is set to launch a sounding rocket to get a closer look at the how the Earth's atmosphere is slowly leaking into space.

The VISIONS-2 mission, short for Visualizing Ion Outflow via Neutral Atom Sensing-2

The purpose of the VISualizing Ion Outflow via Neutral atom Sensing-2 (VISIONS-2) missions was to study the nature and extent of low altitude ion outflow ( $>10$  eV) from the cusp. The investigation aims to determine the spatial and temporal variations of ion outflow; the total energetic ion outflow in the remotely sensed volume; and how regions of enhanced ion outflow compare in detail to the locations of field aligned currents, optical auroral

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emissions, enhanced electric fields, energetic particle precipitation, wave activity, and regions of enhanced/depressed electron density.

The aurora borealis is of keen interest to the VISIONS-2 team, but not just for its otherworldly glow. The aurora play are fundamental drivers in the process of atmospheric escape, whereby planets, including Earth, gradually leak their atmosphere into space.

The aurora are formed when energetic electrons, accelerated in the electric and magnetic fields in near-Earth space, crash into and excite atmospheric gases, which emit bright hues of red, green, and yellow as they relax back to a lower energy state. These unruly electrons also create a cascade of havoc in the process, including driving electric currents that heat the upper atmosphere in splotchy patches.

In some cases, that heating is sufficient to give stray oxygen atoms enough energy to escape.

A sounding rocket makes brief, targeted flights into space before falling back to Earth just a few minutes later.

Sounding rockets are unique among scientific spacecraft for their superior dexterity. They can be carted to remote locations, where they are aimed and shot into short-lived events — like the sudden formation of the aurora borealis — at a moment's notice.

Source: <https://www.firstpost.com/tech/news-analysis/nasas-to-launch-visions-2-mission-on-4-december-sounding-rocket-will-investigate-earths-leaky-atmosphere-5656541.html>

**Q.3) Consider the following statements with respect to 'Sivalik Hills'**

1. They are a mountain range of the outer Himalayas
2. They are chiefly composed of sandstone and conglomerate rock formations

**Select the correct code:**

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

**Q.3) Solution (c)**

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The Sivalik Hills, also known as Churia Hills, are a mountain range of the outer Himalayas that stretches from the Indus River about 2,400 km eastwards close to the Brahmaputra. It is 10–50 km wide with an average altitude of 1,500–2,000 m (4,900–6,600 ft). Between the Teesta and Raidāk Rivers in Assam is a gap of about 90 kilometres (56 mi). In some Sanskrit texts, the region is called Manak Parbat. Sivalik literally means 'tresses of Shiva'.

Geologically, the Sivalik Hills belong to the Tertiary deposits of the outer Himalayas. They are chiefly composed of sandstone and conglomerate rock formations, which are the solidified detritus of the Himalayas to their north; they poorly consolidated. The remnant magnetization of siltstones and sandstones indicates that they were deposited 16–5.2 million years ago. In Nepal, the Karnali River exposes the oldest part of the Shivalik Hills.

**Q.4) ['Qumran Caves'](#) are located in**

- a) Syria
- b) Jordan
- c) Kazakhstan
- d) None of the above

**Q.4) Solution (d)**

Qumran Caves are a series of caves, some natural, some artificial, found around the archaeological site of Qumran in the Judean Desert of the West Bank. It is in a number of these caves that the Dead Sea Scrolls were discovered. The caves are recognized in Israel as a National Heritage Site.

**Q.5) Which of the following countries is not a member of ['Gulf Cooperation Council \(GCC\)'](#)?**

- a) Kuwait
- b) Bahrain
- c) Qatar
- d) Iraq

**Q.5) Solution (d)**

## IASbaba's Daily Quiz

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GCC is a regional intergovernmental political and economic union consisting of all Arab states of the Persian Gulf except Iraq. Its member states are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

