

Q: Consider the following statement regarding fracture halos:

1. They are light-toned opaline silica features.
2. It is evident in Martian geological history.
3. They are absent in rocks.

Choose the correct option from the codes given below:

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) 1, 2 and 3

Ans: a

Explanation:

- The fracture halos are light-toned opaline silica features found throughout rocks and are made from the exposed roots of a vast fluid event in recent Martian geologic history.
- Researchers looked at the old images captured by the Curiosity rover and found a huge expanse of fracture halos extending far into the distance.
- They found that these halos not only looked like halos found much later in the mission, in completely different rock units but were similar in their composition: a whole lot of silica and water.

Q: Consider the following statement regarding Neelakurinji:

1. It is not listed under Schedule III of the Wildlife (Protection) Act, 1972 as protected plant.
2. The plant was endemic to a small stretch in the Western Ghats from the Mangaladevi hills to the Nilgiris hills.
3. The Eravikulam National Park is known for widespread blooming of the kurinji.

Choose the correct option from the codes given below:

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) 1, 2 and 3

Ans: b

Explanation:

- The Ministry of Environment, Forest and Climate Change (MoEF) has listed Neelakurinji (*Strobilanthes kunthiana*) under Schedule III of the Wildlife (Protection) Act, 1972 including it on the list of protected plants.
- The plant was endemic to a small stretch in the Western Ghats from the Mangaladevi hills to the Nilgiris hills.
- In the Western Ghats region, nearly 70 varieties of Neelakurinji plants have been identified.
- The most popular Neelakurinji is *Strobilanthes kunthiana* that blooms once in 12 years. However, some other rare varieties of Neelakurinji are also found in the Western Ghats region.
- The Eravikulam National Park, near Munnar, is known for widespread blooming of the kurinji, with the next flowering season expected in 2030.

Q: Consider the following statement:

1. Fugitive dust is a form of particulate matter that contributes to air pollution.
2. It is not discharged into the atmosphere through a confined flow stream.

Choose the correct option from the codes given below:

- a) 1 Only
- b) 2 Only
- c) 1 and 2
- d) None of the above

Ans: c

Explanation:

- Fugitive dust is a form of particulate matter that contributes to air pollution that is generated from various sources which are exposed to air and not discharged into the atmosphere through a confined flow stream.
- The present invention relates to the synchronized application of windbreak (WB) and vertical greenery system (VGS) for reducing generation and dispersion of fugitive dust. The WB and VGS are erected in the upwind and downwind direction with respect to the fugitive dust source(s) respectively.

Q: Consider the following statement regarding 13th Ministerial-level meeting of India – United States Trade Policy Forum (TPF):

1. Finalization of the Turtle Excluder Device (TED) design.

2. Minimizing the impact of fishing on sea-turtle populations.
3. Restoration of its beneficiary status under the U.S. Generalized System of Preferences program

Choose the correct option from the codes given below:

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) 1, 2 and 3

Ans: d

Explanation:

- They appreciated that bilateral trade in goods and services continued to rise rapidly and reached about \$160 billion in 2021 while recognizing that significant potential remains unfulfilled and expressed their mutual desire to further enhance engagement with the goal of continuing to increase and diversify bilateral trade.
- India appreciated the resumption of inspections by U.S. Food and Drug Administration (FDA) and asked the U.S. side to also resume inspections of new facilities and non-priority areas at the earliest.
- They welcomed the finalization of the Turtle Excluder Device (TED) design. The collaboration between India and the United States to expedite the TED trials will ensure that the TEDs are effective in minimizing the impact of fishing on sea-turtle populations and restore the market access for India's export of wild caught shrimp.
- India highlighted its interest in restoration of its beneficiary status under the U.S. Generalized System of Preferences program. The United States noted that this could be considered, as warranted, in relation to the eligibility criteria determined by the U.S. Congress.
- They acknowledged the constructive engagement of the Services Working Group under the Trade Policy Forum and noted that the movement of professional and skilled workers, students, investors and business travelers between the countries contributes immensely to enhancing bilateral economic and technological partnership.

Q: Consider the following statement regarding "Gale Crater":

1. It is important features of Moon.
2. It is known for cold and harsh temperatures.
3. These environments would have formed long after the ancient lakes in Gale Crater dried up.

Choose the correct option from the codes given below:

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) 1, 2 and 3

Ans: a

Explanation:

- The Gale Crater on Mars is known for cold and harsh temperatures that go down to -70 degrees Celsius.
- Given the widespread fracture networks discovered in Gale Crater, it's reasonable to expect that these potentially habitable subsurface conditions extended to many other regions of Gale Crater as well, and perhaps in other regions of Mars.
- These environments would have formed long after the ancient lakes in Gale Crater dried up.