

UPSC CURRENT AFFAIRS MCQS 14-11-2023

1. Consider the following statements regarding the theory of Plate tectonics:

1. It is another name for the theory of continental drift.
2. It is the theory that Earth's outer shell is divided into several plates that glide over the mantle.
3. It discards the conventional geological view that there is conventional current flowing in the mantle.

How many of the above statements is/are correct?

- (A) Only one
- (B) Only two
- (C) All three
- (D) None

Answer: (A)

Explanation: The plates act like a hard and rigid shell compared to Earth's mantle. This strong outer layer is called lithosphere. Plate tectonics is the modern version of continental drift, a theory first proposed by scientist Alfred Wegener in 1912. Wegener didn't have an explanation for how continents could move around the planet, but researchers do now. Plate tectonics is thus said to be the unifying theory of geology. The driving force behind plate tectonics is convection in the mantle. Hot material near Earth's core rises, and colder mantle rock sinks. In terms of analogy, it is kind of a pot boiling on a stove. The convection drives plate tectonics through a combination of pushing and spreading apart at mid-ocean ridges and pulling and sinking downwards at subduction zones. Hence, statement 2 is correct.



2. Consider the following statements regarding Foreshocks and earthquake swarm:

1. Foreshocks are mild earthquakes that precede larger earthquakes in the same location.
2. An earthquake cannot be identified as a foreshock until after a larger earthquake in the same area occurs.
3. An earthquake swarm is a sequence of seismic events occurring in a local area within a relatively short period of time.
4. Foreshocks and earthquake swarms are mainly clustered in the north-eastern and north-western Himalayan region.

How many of the above statements is/are correct?

- (A) Only one
- (B) Only two
- (C) Only three
- (D) All four

Answer: (D)

Explanation: The recent earthquakes in different parts of India, albeit of small magnitudes, have occurred due to foreshocks and swarms, a top official of the Geological Survey of India (GSI) said. Foreshocks, mild tremor preceding earthquakes or swarm activities — series of earthquakes — indicate release of tectonic stress and strain during the continuous deformation process, and a detailed study of these jolts could help predict if a significant seismic event is in store. These minor earthquakes are mainly clustered in the north-eastern and north-western Himalayan region, around the Delhi-National Capital Territory (NCT), western Gujarat and Western Maharashtra areas which have been demarcated as seismic zones IV and V. Hence, all statements are correct.



3. Consider the following statements:

1. The temperature starts increasing with the increase in altitude in the Mesosphere.
2. The temperature starts decreasing with the increase in altitude in the ionosphere.

Which of the above statements is/are correct?

- (A) 1 only
- (B) 2 only
- (C) Both 1 and 2
- (D) Neither 1 nor 2

Answer: (D)

Explanation: The mesosphere lies above the stratosphere, which extends up to a height of 80 km. In this layer, temperature starts decreasing with the increase in altitude and reaches up to minus 100°C at the height of 80 km. The ionosphere is located between 80 and 400 km above the mesopause. It contains electrically charged particles known as ions, and hence, it is known as ionosphere.

Temperature here starts increasing with height. Hence, both statements are not correct.

4. Consider the following statements:

1. Southern ranges in eastern Himalayas have higher snowlines than the northern ranges because they receive more rainfall.
2. The Eastern Ghats and Deccan Plateau are drier than Western Ghats and consequently have less diverse vegetation.

Which of the above statements is/are correct?

- (A) 1 only
- (B) 2 only



(C) Both 1 and 2

(D) Neither 1 nor 2

Answer: (B)

Explanation: Himalayas are oriented east-west and their southern slopes are in direct sunshine for a larger part of the year so the snowline on the southern slopes of the ridges is higher than the northern slopes. Also, volume of precipitation decreases from the south towards the north, therefore southern ranges in eastern Himalayas have lower snowline than the northern ranges because they receive more rainfall allowing for snow to form at lower altitudes. The Eastern Ghats and Deccan Plateau are drier than Western Ghats and consequently have less diverse vegetation because Eastern Ghats are in the rain shadow zone of Monsoon winds, and Western Ghats receives more rainfall than both Deccan plateau and Eastern Ghats. Hence, statement 1 is not correct.

5. Consider the following statements regarding Deccan Plateau:

1. It is composed of the old crystalline igneous and metamorphic rocks.
2. The climate of the region varies from semi-arid in the north to tropical in most of the region with distinct wet and dry seasons.
3. It is higher along its Eastern edge gently sloping towards the Arabian Sea in the West.

How many of the above statements is/are correct?

(A) Only one

(B) Only two

(C) All three

(D) None

Answer: (B)



Explanation:

The Deccan Plateau is bounded by Aravalli Hills in the North-West, Hazaribagh & Rajmahal Hills in the North-East, the Western Ghats in the West and the Eastern Ghats in the East. It forms a raised triangle within the South-pointing triangle of the Indian subcontinent's coastline.

The western edge is higher and slopes towards the Bay of Bengal in the east. The climate of the region varies from semi-arid in the north to tropical in most of the region with distinct wet and dry seasons. Hence, statement 3 is not correct.