

(SOLUTION) Test-14 (Prelim Revision Test 2)

19 Correct Answer : B

Answer Justification :

Justification: Statement 2: Metamorphism involves the alteration of existing rocks by either excessive heat and pressure, or through the chemical action of fluids. This alteration can cause chemical changes or structural modification to the minerals making up the rock. Structural modification may involve the simple reorganization of minerals into layers or the aggregation of minerals into specific areas within the rock.

Statement 1: Their absolute ages can be obtained from various forms of radiometric dating and thus can be compared to adjacent geological strata, allowing a time sequence of events.

We are covering another important question on igneous rocks.

Statement 3: Igneous and metamorphic rocks make up 90–95% of the top 16 km of the Earth's crust by volume. Igneous rocks form about 15% of the Earth's current land surface. Most of the Earth's oceanic crust is made of igneous rock.

20 Correct Answer : B

Answer Justification :

Learning: PDV (Prithvi Defense Vehicle) mission is for engaging the targets in the exo-atmosphere region at an altitude above 50 kilometers (around 31 miles) of earth's atmosphere. Both, the PDV interceptor and the two-stage target missile, were successfully engaged.

The target mimicking an incoming ballistic missile was launched from an Indian warship in the Bay of Bengal located over 2,000 kilometers distant from the interceptor launch site on Abdul Kalam Island. No additional details of the test were disclosed. It is unclear at what exact altitude the incoming target was intercepted, although some press reports claim that the ballistic missile was destroyed at 100 kilometers.

The PDV was first tested in April 2014. The missile interceptor had a “near miss” at an altitude of 120 kilometers. Despite of that DRDO scientists at the time proclaimed the test a success.

The PDV is slated to replace the existing Prithvi Air Defense (PAD)/Pradyumna Ballistic Missile Interceptor, which has a maximum interception altitude of 80 kilometers. Among other things, the new two-stage solid-fueled PDV interceptor is fitted with an Imaging Infrared (IIR) seeker, developed by DRDO, to distinguish between incoming warheads and decoys.

Q Source: <https://thediplomat.com/2017/02/india-successfully-tests-prithvi-defense-vehicle-a-new-missile-killer->

21 Correct Answer : D

Answer Justification :

Justification: Statement 1: The level of inflation will have a bearing on nominal GDP, but not real GDP. Nominal GDP takes into account price rise.

Statement 2: GDP calculations do not consider employment level.

Statement 3: GDP is concerned with what is produced within the country's territory whether it is produced by the citizens or foreigners working in the country. Within NFIA, the component of production happening within a country will be considered as a part of GDP.

Statement 4: Imports will not be considered a part of GDP because they are not produced within the country's territory.

Q Source: 12th NCERT: Macroeconomics

22 Correct Answer : B

Answer Justification :

Learning:

When an asteroid family is formed, all the asteroids' pericenters and ascending nodes are aligned, but as the family evolves, the alignment is lost owing to gravitational disturbances produced by planets and possibly by some massive asteroids

For a planet, comet or asteroid moving around the Sun in an elliptical orbit, the pericenter is the point at which it comes closest to the Sun. The ascending node is the point at which the orbit crosses from the southern side of a reference plane, typically the ecliptic plane, to the northern side.

The key dating parameters used for finding young family of asteroids by the Backward Integration method (BIM) [that was recently employed in Brazil] were the longitudes of the pericenter and ascending node.

Based on current data, BIM lets you go back in time using numerical simulation to reconstruct the setting in which the parameters were aligned and thereby date the asteroid family.