

Que-1 What are the recent developments that have strengthened North Atlantic Treaty Organization (NATO)?

- 1- NATO allies other than the U.S. remained firmly committed to financing the organisation's military needs.
- 2- After decades of maintaining a position of neutrality, Denmark and Sweden are set to join NATO possibly within a year.

Which of the following given above is/are correct

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

Que-2 What are Nairobi flies, which are causing disease in Sikkim?

- 1- Nairobi flies, also called Kenyan flies or dragon bugs, are small, beetle-like insects that belong to two species, *Paederus eximius* and *Paederus sabaesus*.
- 2- They are orange and black in colour, and thrive in areas with high altitude and low rainfall.
- 3- They release a potent acidic substance pederin, that causes burns.

Which of the following given above is/are correct

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

Que-3 What are quarks?

- 1- Quarks are elementary particles that come in six "flavours": up, down, charm, strange, top, and bottom.
- 2- They usually combine together in groups of twos and threes to form hadrons such as the electron and neutrons that make up atomic nuclei.
- 3- They can also combine into four-quark and five-quark particles, called tetraquarks and pentaquarks.

Which of the following given above is/are correct

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

Que-4 What are critical minerals, the centerpiece of a new India-Australia collaboration?

- 1- Critical minerals are elements that are the building blocks of essential modern-day technologies, and are at risk of supply chain disruptions.
- 2- These minerals are now used everywhere from making mobile phones, computers to batteries, electric vehicles and green technologies like solar panels and wind turbines.
- 3- Aerospace, communications and defence industries also rely on several such minerals.

Which of the following given above is/are correct

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

Que-5 Who are the Karakalpak residents of an unrest-hit Uzbekistan province?

- 1- Karakalpak translates to 'black hat', referring to their traditional headgear.
- 2- Their separate lifestyle is a crucial aspect of their cultural identity.
- 3- The Karakalpak claim to share a common point of origin with the neighbouring Kazakhs, Uzbeks and Turkmen, but believe that over time they diverged from the others.

Which of the following given above is/are correct

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

Que-6 What is the Fields Medal, so-called 'Mathematics Nobel'?

- 1- The Fields Medal is awarded every four years.
- 2- Awarded to one or more mathematicians under the age of 40.
- 3- In recognition of "outstanding mathematical achievement for existing work and for the promise of future achievement".

Which of the following given above is/are correct

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

Que-7 With reference to African Union (AU), consider the following statements

- 1- It is a continental union consisting of 55 member states located on the continent of Africa.
- 2- The AU was announced in the Sirte Declaration in Sirte, Libya in 1999.
- 3- The AU's secretariat, the African Union Commission, is based in Nairobi..

Which of the following given above is/are correct

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

Que-8 With reference to Development of Enterprise and Service Hubs (DESH) Bill, government plans to table in the monsoon session of the Parliament, which will overhaul the special economic zones (SEZ) legislation. Why replace the existing SEZ Act?

- 1- The World Trade Organization's dispute settlement panel has ruled that India's export-related schemes, including the SEZ Scheme, were inconsistent with

WTO rules, since it directly linked tax benefits to exports.

2- SEZ units used to enjoy 100% income tax exemption on export income for the first five years, 50% for the next five years, and 50% of the ploughed back export profit for another five years.

3- Countries aren't allowed to directly subsidize exports as it can distort market prices.

Which of the following given above is/are correct

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

ANSWER

1- (a)

- Firstly, NATO allies other than the U.S. remained firmly committed to financing the organisation's military needs. Their combined defence investments have jumped by \$130 billion from 2014-19, in part driven by Russia's annexation of Crimea.
- Second, after decades of maintaining a position of neutrality, Finland and Sweden are set to join NATO possibly within a year, in a large part driven by the strategic insecurity they face as neighbours of Russia, and the precedent that Mr. Putin has set with

his invasion of and alleged human rights violations and war crimes in Ukraine.

- While most NATO members are keen for Finland and Sweden to join the organisation, Turkey was the final holdout citing concerns over the two countries allegedly providing safe haven to a group that Istanbul considers a terrorist organisation. Nevertheless, after joint security negotiations in recent days, Turkey has also lent its support to Finland and Sweden joining NATO.
 - The main point of such an expansion would be to tap into the military support that the two countries would provide to the alliance, the fact that Finland has a 1,340 km border with Russia and that both countries will, as required by NATO, spend 2% of their GDP on defence.
- 2- (b)
- They are orange and black in colour, and thrive in areas with high rainfall.
 - This substance is called pederin, and can cause irritation if it comes in contact with the skin, leading to lesions or unusual marks or colouring on the skin. The skin begins to heal in a week or two, but some secondary infections can occur, especially if the victim scratches the irritated skin.

- Major outbreaks have happened in Kenya and other parts of eastern Africa. In 1998, unusually heavy rain caused a large number of insects to come into the region, reported the Associated Press.
- Outside Africa, outbreaks have happened in India, Japan, Israel, and Paraguay in the past.

3- (b)

- They usually combine together in groups of twos and threes to form hadrons such as the protons and neutrons that make up atomic nuclei.
- Quarks are elementary particles that come in six “flavours”: up, down, charm, strange, top, and bottom. They usually combine together in groups of twos and threes to form hadrons such as the protons and neutrons that make up atomic nuclei.
- But they can also combine into four-quark and five-quark particles, called tetraquarks and pentaquarks. These exotic hadrons were predicted by theorists about six decades ago — around the same time as conventional hadrons — but they have been observed by Large Hadron Collider beauty (LHCb) and other experiments only in the past 20 years.

4- (c)

- However, such lists mostly include graphite, lithium and cobalt, which are used for making EV batteries; rare earths that are used for making magnets and silicon which is a key mineral for making computer chips and solar panels. Aerospace, communications and defence industries also rely on several such minerals as they are used in manufacturing fighter jets, drones, radio sets and other critical equipment.

Why is this resource critical?

- As countries around the world scale up their transition towards clean energy and digital economy, these critical resources are key to the ecosystem that fuels this change. Any supply shock can severely imperil the economy and strategic autonomy of a country over-dependent on others to procure critical minerals.

5- (b)

- The name Karakalpakstan is derived from the Karakalpak people, an ethnic minority group of around 2 million. Karakalpak translates to ‘black hat’, referring to their traditional headgear.
- The Karakalpaks consider themselves to be a distinct cultural group in

Uzbekistan. Their Turkic language – Karakalpak – is closely related to Kazak and is one of the 7 languages of instruction in Uzbekistan’s public schools. Their separate language is a crucial aspect of their cultural identity.

- The Karakalpak people settled around the Amu Darya (a river that feeds into the Aral Sea) in the 18th century. By 1873, they partly came under Russian rule and by 1920 were completely incorporated into the Soviet Union.
- Their region, Karakalpakstan, was an autonomous area within the Russian Soviet Federative Socialist Republic (Russia during 1917-1922), before it was made a part of Uzbekistan as the Karakalpak Autonomous Socialist Republic (ASSR) in 1936.
- When Uzbekistan declared its independence from the Soviet Union in August 1991, Karakalpak ASSR was re-established as the Republic of Karakalpakstan in December of the same year. Karakalpakstan was formally recognized as an autonomous republic in Uzbekistan’s constitution of 1992, and has the right to secede from on the basis of a nation-wide referendum.

6- (d)

- The Fields Medal is awarded every four years.

- The winners are announced at the International Congress of Mathematicians (ICM), which was supposed to be held in Russia this year, but was moved to Helsinki.
- The honour carries a physical medal of 14K gold, 63.5 mm in diameter and weighing 169 g, and with a unit price of approximately 5,500 Canadian dollars. There is also a cash award of CAD 15,000.
- Ukrainian mathematician Maryna Viazovska, chair of Number Theory at École polytechnique fédérale de Lausanne (EPFL) in Switzerland, was named as one of four recipients of the 2022 Fields Medal, an honour that is often described the Nobel Prize in mathematics.
- The Fields Medal is awarded by the International Mathematical Union (IMU), an international non-governmental and non-profit scientific organisation that aims to promote international cooperation in mathematics.
- The other winners were French mathematician Hugo Duminil-Copin of the University of Geneva; Korean-American June Huh of Princeton; and Briton James Maynard of the University of Oxford.

7- (a)

- The AU's secretariat, the African Union Commission, is based in Addis Ababa.
- The bloc was founded on 26 May 2001 in Addis Ababa, Ethiopia, and launched on 9 July 2002 in Durban, South Africa.
- The intention of the AU was to replace the Organisation of African Unity (OAU), established on 25 May 1963 in Addis Ababa by 32 signatory governments; the OAU was disbanded on 9 July 2002. The most important decisions of the AU are made by the Assembly of the African Union, a semi-annual meeting of the heads of state and government of its member states.
- The largest city in the AU is Lagos, Nigeria, while the largest urban agglomeration is Cairo, Egypt.
- Key among its achievements is the African Continental Free Trade Area, which commenced on 1 January, 2021. It is expected to boost intra-African trade by about \$35 billion by end of 2022.

8- (c)
