

General Studies

Current Affair Test (August-2023)

1. Ans: (A)

The Confederation of All India Traders (CAIT) Sunday announced the creation of a National Digital Nagrik Forum.

About National Digital Nagrik Forum:

- It is an online platform that aims to advance the rights of traders and consumers and other sections of society, and shape policy to boost the digital trade economy.
- The forum aims to raise awareness about digital regulations and help build the capacities of citizens to engage with innovation via expert sessions and instructional materials.
- Objective: To shape policy discourse around digital economy trade in India with a view to contributing to the Government of India's vision of creating a trillion-dollar digital economy while maintaining an open, safe, trusted and accountable internet ecosystem.
- It will conduct awareness camps, digital and physical dialogues and trainings, as well as targeted outreach to stakeholders from government, private sector and civil society,
- It will focus on five core themes.
- The first pillar consists of consumer protection and online safety with a core focus on efficient grievance redressal.
- The pitfalls of digital cartelisation and how a level-playing field is necessary to discourage discriminatory and anti-competitive practices in the online world are part of the second pillar.
- Third, the potential of Indian digital technologies to not only transform retail and industrial trade but also boost employment and expand the investment footprint.
- Fourth, a first principles-based taxation policy that encourages certainty and productivity, especially for sectors with high growth potential, while preventing illegal activities such as tax evasion and money laundering.
- Finally, the forum will study emerging technologies, such as blockchain and artificial intelligence, to assess their impact on retail trade and, at the same time, safeguard consumers' interests.
- Hence only statement 1 is correct.

2. Ans: (B)

Explanation:

- Kavach is an indigenously developed Automatic Train Protection (ATP) System for the Indian Railways. It is designed to bring a train to a halt automatically when it notices another train on the same line within a prescribed distance. It has been developed by the Research Design and Standards Organisation of the Ministry of Railways in collaboration with Indian industry. Hence, statement 1 is incorrect.
- It is a set of electronic devices and Radio Frequency Identification (RFID) devices installed in locomotives, in the signalling system as well as the tracks. They connect to each other using ultra high radio frequencies to control the brakes of trains and also alert drivers, all based on the logic programmed into them. The Kavach system will help prevent accidents on rail tracks like collision of trains. Once the system is activated, all trains within a 5-km range will halt to provide protection for trains on adjacent tracks. Hence, statement 2 is correct.
- It is meant to provide protection by preventing trains from passing the signal at Danger (Red) and avoiding collision. It activates the train braking system automatically if the driver fails to control the train as per the speed restrictions. It is one of the cheapest, Safety Integrity Level 4 (SIL-4) certified technologies with the probability of error is 1 in 10,000 years. Hence, statement 3 is correct.
- The recent tragic accident in Balasore district, Odisha, resulting in the loss of over 288 lives, has highlighted the urgent need for safety measures to prevent such incidents. Both the Shalimar-Chennai Coromandel Express and the Yeshwanthpur-Howrah Express were not lifted with KAVACH-TACS.

3. Ans: (A)

Explanation:

Biosimilar is a biologic medication that is similar to another biologic drug. Biosimilar is a biologic medical product that is almost an identical copy of an original product that is manufactured by a different company. Biosimilars are officially approved versions of original "innovator" products and can be manufactured when the original product's patent expires. Hence, statement 1 is correct.

Biosimilars are the generic versions of biologics

medicines made from animal or plant proteins as opposed to chemicals. Biologics, or biological products, are medicines made from living organisms. Hence, statement 2 is incorrect.

Biosimilars are prescribed medications and serve as lower-cost alternatives to their original biologic counterparts. The temperature has a significant impact on the maintenance of biosimilars because of their great sensitivity. They must therefore be distributed via a cold chain network. Hence, statement 3 is incorrect.

4. Ans: (D)

Explanation:

The FMR is a mutually agreed arrangement between the two countries that allows tribes living along the border on either side to travel up to 16 km inside the other country without a visa. Hence, statement 1 is incorrect.

The FMR was implemented in 2018 as part of India's Act East policy at a time when diplomatic relations between India and Myanmar were on the upswing. Hence, statement 2 is incorrect.

5. Ans: (C)

Explanation:

Qila Rai Pithora (literally "Rai Pithora's Fort") is a fortified complex in present-day Delhi, including the Qutb Minar complex. The term was first used by the 16th century historian Abu'l-Fazl in his Ain-i-Akbari, who presents Delhi as the Chahamana capital. It was constructed in the 12th century by Rajput ruler Prithviraj Chauhan. The complex of the Qila Lal Pithora also includes the Lal Kot, which had been built in the 18th century by Tomar ruler Anang Pal I. Hence, both statements are incorrect.

6. Ans: (B)

Explanation:

According to a new study conducted by scientists at the Wadia Institute of Himalayan Geology, three glacial lakes are projected to form around the Parkachik Glacier in Ladakh due to rapid ice melt. The Parkachik glacier is one of the largest glaciers in the Suru River basin, encompassing 53 square kilometres and stretching 14 kilometres. The Suru River valley is located in the western Himalayas' southern Zaskar Ranges. Main reasons for rapid melting of glacier are global warming and increasing temperatures, and a lower altitude than other glaciers in Zaskar region. Hence, option (b) is correct.

7. Ans: B

Explanation:

India's Forex Reserves recently declined by \$1.9 billion to \$607.03 billion, its lowest level in nearly 3 months. About Foreign Exchange Reserves:

- What is it? Foreign Exchange Reserves (also called Forex Reserves) are reserve assets held by a central bank in foreign currencies.
- These may include foreign currencies, bonds, treasury bills, and other government securities.
- Reserves are denominated and expressed in the US dollar, which is the international numeraire for the purpose.
- RBI is the custodian of the Foreign exchange reserves in India.

India's foreign exchange reserves comprise of:

- Foreign currency assets (FCAs): These are maintained in currencies like the US dollar, euro, pound sterling, Australian dollar and Japanese yen.
- Gold
- SDR (Special Drawing Rights): This is the reserve currency with IMF.
- RTP (Reserve Tranche Position): This is the reserve capital with IMF.
- The biggest contributor to India's Forex reserves is foreign currency assets, followed by gold.

Purpose:

- They are used to back liabilities on their own issued currency, support the exchange rate and set monetary policy.
- To ensure that RBI has backup funds if their national currency rapidly devalues or becomes altogether insolvent.
- If the value of the Rupee decreases due to an increase in the demand of the foreign currency, then RBI sells the dollar in the Indian money market so that depreciation of the Indian currency can be checked.
- A country with a good stock of forex has a good image at the international level because the trading countries can be sure about their payments.
- A good forex reserve helps in attracting foreign trade and earns a good reputation with trading partners.

Hence only statements 1 and 2 are correct.

8. Ans: A

Recently, OpenAI CEO formally re-introduced Worldcoin project of his that was eclipsed by the popularity of ChatGPT.

- It is an initiative to create a digital network in which everyone can claim some kind of stake, and join the digital economy.
- This venture runs on a simple model: allow your eyes to be scanned in order to prove your human uniqueness, and receive some crypto and an ID (called a World ID) in exchange.
- Using a device called "Orb," Worldcoin volunteers known as 'Orb operators' scan a person's iris pattern

to collect their biometric data and help them get a World ID through the World app.

- With the app, scanned participants can collect a cryptocurrency called Worldcoin [WLD] at regular intervals or make transactions with their World ID where possible.
- This process is called “proof of personhood” and makes sure that people do not sign themselves up multiple times in exchange for crypto.
- Worldcoin claims it is building the “world’s largest identity and financial public network” open to people worldwide.
- Worldcoin lists 18 locations — largely in Delhi, Noida, and Bangalore — where Orb operators are scanning people’s eyes.
- It was launched by the OpenAI.

Hence only statement 1 is correct.

9. Ans: B

The dengue tally in Delhi reached a five-year high this year after a total of 187 cases was reported, which is highest for the period since 2018.

- It is caused by the dengue virus (DENV)
- It is transmitted to humans through the bites of infected female mosquitoes, primarily the *Aedes aegypti* mosquito.
- The severe form of dengue fever, also called dengue hemorrhagic fever, can cause serious bleeding, a sudden drop in blood pressure (shock) and death.
- It is more common in tropical and subtropical climates.
- Symptoms: The most common symptoms are high fever, headache, body aches, nausea and rash.
- Most will also get better in 1–2 weeks but in severe cases it can be fatal.

Treatment:

- There is no specific treatment for dengue.
- Early detection of disease progression associated with severe dengue, and access to proper medical care lowers fatality rates of severe dengue to below 1%.
- The dengue vaccine CYD-TDV or Dengvaxia was approved by the US Food & Drug Administration in 2019, the first dengue vaccine to get the regulatory nod in the US.

Hence only statements 1 and 3 are correct.

10. Ans: C

Recently, the Union Minister of Education launched the logo, slogan-Jan Jan Sakshar and mobile application of ULLAS in New Delhi.

- The Understanding Lifelong Learning for All in Society (ULLAS) initiative is poised to revolutionise education and literacy across the nation.

- It is done by fostering a learning ecosystem that reaches every individual, bridging the gaps in basic literacy and critical life skills.
- It imparts basic education, digital and financial literacy and critical life skills to citizens aged 15 and above who lost on the opportunity to go to school.
- It is being implemented through volunteerism.
- Slogan of the Initiative: ULLAS: Nav Bharat Saksharta Karyakram.
- For this purpose ULLAS app was launched which is user-friendly and interactive app available both on android and ios.
- It will serve as a digital gateway for learners to engage in diverse learning resources through the DIKSHA portal of NCERT.
- The ULLAS app can be used for registration of learners and volunteers either through self-registration or by surveyors.
- Significance
- This app will focus on promoting functional literacy, vocational skills, and many important life skills like financial literacy, legal literacy, digital literacy, and empowerment of citizens to involve in nation-building of the country.
- It also fosters a culture of continuous learning and knowledge-sharing in communities across India.

Hence both statements are correct.

11. Ans: B

The DPT vaccine or DTP vaccine is a class of combination vaccines against three infectious diseases in humans: diphtheria, pertussis (whooping cough), and tetanus.

The vaccine components include diphtheria and tetanus toxoids and either kill whole cells of the bacterium that causes pertussis or pertussis antigens.

The DPT vaccine is considered a marker for immunisation coverage across countries

At 81 per cent now it represents the largest sustained decline in childhood vaccinations in 30 years.

The coverage rate for DPT3, the third dose of diphtheria, pertussis and tetanus vaccines, in India rose to an all-time of 93% in 2022, surpassing the previous pre-pandemic best of 91% recorded in 2019, and also marking a sharp increase from the 85% recorded in 2021, the World Health Organization (WHO) said.

12. Ans: D

Explanation:

Objectives of Forest Conservation Act 1980

- To protect the integrity, individuality, and territory of the forests.
- To replenish forests by planting more trees and encouraging the growth of forests in our country.

- To prevent the conversion of forest reserves into grazing lands, space for building residential units, agricultural lands, etc.
- To stop the decline of forest biodiversity.

Hence all statements are correct.

13. Ans: (C)

Explanation:

Dhala Crater:

- The Dhala crater holds the distinction of being India's oldest and largest impact crater.
- It is believed to have formed approximately 2500 million years ago.
- Named after the village Dhala, the crater remains as an eroded remnant of its original impact structure.
- Situated in Madhya Pradesh's Shivpuri district, the crater spans a massive 11 km in diameter, making it the largest in Asia.

Lonar Crater:

- Lonar Crater is in the Buldhana district of Maharashtra, India.
- It is a highly saline and alkaline water lake with no outflow, leading to mineral concentration.
- Created by a meteorite impact around 570,000 to 47,000 years ago.
- It is a hover-backed protrusion in volcanic rock, forming an endorheic or closed basin.
- Declared a wildlife sanctuary due to its diverse wildlife, including 160 bird species, 46 reptile species, and 12 mammal species like the endangered Asian woolly neck and grey wolf.

Ramgarh Crater:

- Ramgarh crater formed around 150 million years ago in Rajasthan's Baran district.
- The crater is about three kilometers in diameter and resulted in a lake measuring one kilometer in length and 250 meters in width.
- First found by the Geological Survey of India in 1869, it shows all the signs of an impact crater.
- Geo-scientists from GSI and INTACH conducted additional research on the crater before the COVID pandemic.
- Rajasthan's mines and geology department plans to recommend it as an international geo-heritage site to IUGH.

14. Ans: B

Explanation:

Deputy executive director of the World Food Program recently said that United Nations has been forced to cut food, cash payments and assistance to millions of people in many countries because of "a crippling funding crisis".

About U.N. World Food Programme (WFP):

- It is a branch of the United Nations that deals with hunger eradication and promotes food security in

the world.

- WFP is the world's largest humanitarian agency and was established in 1961.
- The organization's work is guided by Sustainable Development Goal 2, which aims to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture by 2030.
- It operates in more than 120 countries, provides food assistance during emergencies and works with communities to enhance nutrition and generate resilience.
- Funding: WFP is funded by voluntary donations from governments, corporates and private donors.
- It is a member of the United Nations Development Programme (UNDP).
- Headquarters: Rome, Italy
- It has been functioning in India since 1963.
- It was awarded the Nobel Peace Prize in 2020.
- Report released by the WFP is Global Report on Food Crisis which describes the scale of acute hunger in the world.
- Hence only statements 1 and 2 are correct.

15. Ans: B

Recently, the Union Finance Minister launched the Corporate Debt Market Development Fund (CDMDF).

- It is a backstop facility for specified debt funds during market dislocations.
- The fund is intended to provide liquidity support in the event of a financial crisis.
- It will be in the form of an alternative investment fund (AIF), meant to instill confidence among the participants in the Corporate Bond Market during times of stress
- The fund has Rs 33,000-crore backstop facility for Mutual Funds.
- Of the Rs 33,000 crore, Rs 30,000 crore will come from the government, while the balance Rs 3,000 crore will be contributed by the Asset Management Companies.
- Contributions to the fund can be done by the specified debt-oriented mutual fund schemes and asset management companies of mutual funds.
- This fund is guaranteed by the National Credit Guarantee Trust Company (NCGTC) and the backstop facility will be managed by SBI Mutual Fund.

Who can invest?

- Specified debt-oriented mutual fund schemes here are 'open-ended debt oriented mutual fund schemes, excluding the overnight funds and gilt funds and including conservative hybrid fund'.
- These specified debt-oriented schemes will invest

25 basis points (0.25 per cent) of their asset under management (AUM) in CDMDF units and will increase their contribution when their AUM increases and review it every six months.

- However, there will be no redemption from CDMDF in case their AUM reduces.
- The same applies to the specified schemes of new mutual funds or such new schemes from the existing mutual funds.
- The AMC's are also required to make a contribution of 2 per cent of their specified debt-oriented schemes' AUM as a one-time contribution.
- The initial contribution for this purpose will be based on the AUM as of December 31, 2022, in the specified schemes of the mutual funds.

Hence only statements 1 and 3 are correct.

16. Ans: B

Mohiniyattam is one of the two classical dance forms that originated in Kerala, the other one being Kathakali. Mohiniyattam gets its name from the word 'Mohini', the feminine form of Lord Vishnu; the word means 'dance of Mohini'. It is one of the eight principal Indian classical dance. It is traditionally performed only by women. Kathakali, on the other hand, was confined to men, although, in modern times, women also take it up.

17. Ans: B

Until 2013, acid attacks were not treated as separate crimes. Due to the amendments carried out in the IPC, acid attacks were put under a separate Section (326A) of the IPC.

It made punishable with a minimum imprisonment of 10 years which is extendable to life along with fine. Denial of treatment to victims can lead to imprisonment of up to 1 year.

States are supposed to ensure that treatment provided to acid attack victims in any hospital, public or private, is free of cost. Based on Supreme Court directions, acid attack victims are paid compensation of at least Rs. 3 lakhs by the concerned State Government/Union Territory as the aftercare and rehabilitation cost.

18. Ans: D

- Emerging Economy - An economy that is in the process of transitioning from a traditional or developing economy to a more modern and advanced economy.
- Subsistence Economy - An economy in which people produce and consume only enough goods and services to meet their basic needs.
- Green Economy - An economy that is focused on sustainable development, with a focus on reducing environmental impact and promoting social equity.
- Circular Economy - A Circular Economy is the

one where products are designed for durability, reuse and recyclability and thus almost everything gets reused, remanufactured, and recycled into a raw material or used as a source of energy

19. Ans: (A)

Explanation:

- The Global Education Monitoring Report, an independent annual publication hosted and published by UNESCO, plays a crucial role in monitoring progress towards achieving the Sustainable Development Goals (SDGs) in the field of education. Hence, statement 1 is incorrect.
- It serves as a mechanism to assess the implementation of national and international education strategies while holding all relevant partners accountable for their commitments. The latest report, titled "Technology in education: a tool on whose terms?" highlights UNESCO's warning against the uncritical adoption of digital products in education, citing the lack of robust evidence on their added value. Hence, statement 2 is correct.
- Data privacy in education remains a concern, as only 16% of countries explicitly guarantee it by law. During the pandemic, 89% of education technology products were found to be capable of surveying children's data, while 39 out of 42 governments providing online education risked or infringed on children's rights. Hence, statement 3 is incorrect.
- Moreover, the report sheds light on the financing gap for achieving SDG 4 targets, with basic digital learning in low-income countries and Internet connectivity for all schools in lower-middle-income countries requiring an additional 50% to their current funding. Hence, statement 4 is incorrect.

20. Ans: (A)

Explanation:

Hepatitis B is not primarily transmitted through contaminated food and water. It is primarily transmitted through the exchange of infected body fluids, such as blood, semen, and vaginal fluids. Common modes of transmission include unprotected sexual contact, sharing of needles or syringes and from an infected mother to her new-born during childbirth. Hence, statement 1 is incorrect.

There is a highly effective and safe vaccine available for hepatitis B. The hepatitis B vaccine is recommended for all infants and children, as well as for adults at risk of infection, such as healthcare workers, people with multiple sexual partners, and individuals who inject drugs. The vaccine provides long-term protection against the virus and is a crucial tool in preventing the spread of hepatitis B. Hence, statement 2 is incorrect.

Hepatitis B is a viral infection, but it primarily affects the liver, not the respiratory system. The hepatitis B virus (HBV) targets liver cells, leading to inflammation of the liver, which can range from mild to severe. Chronic infection with HBV can result in liver cirrhosis, liver failure, or hepatocellular carcinoma (liver cancer). Hence, statement 3 is incorrect.

Hepatitis B is mainly spread through the exchange of infected body fluids, including blood, semen, vaginal fluids, and to a lesser extent, saliva and tears. It is important to practice safe sex, avoid sharing needles or personal items that may come into contact with blood, and ensure proper infection control practices in healthcare settings to prevent the transmission of hepatitis B. Vaccination is the most effective way to protect against hepatitis B infection. Hence, statement 4 is correct.

21. Ans: B

Explanation:

Recently, the government's 5.36% stake sale in Rail Vikas Nigam Ltd (RVNL) under offer-for-sale (OFS) got an enthusiastic response from institutional investors.

- It is a simpler method of share sale through the exchange platform for listed companies.
- The mechanism was first introduced by India's securities market regulator SEBI in 2012.
- Aim: To make it easier for promoters of publicly-traded companies to cut their holdings and comply with the minimum public shareholding norms by June 2013.
- The method was largely adopted by listed companies, both state-run and private, to adhere to the Sebi order.
- Later, the government started using this route to divest its shareholding in public sector enterprises.
- In an OFS, promoters of a company will dilute their stake by selling their shares to retail investors, companies, Foreign Institutional Investors (FIIs) and Qualified Institutional Buyers (QIBs) on an exchange platform.

Features of Offer for sale

- Unlike a follow-on public offering (FPO), where companies can raise funds by issuing fresh shares or promoters can sell their existing stakes, or both, the OFS mechanism is used only when existing shares are put on the block.
- Only promoters or shareholders holding more than 10 per cent of the share capital in a company can come up with such an issue.
- The mechanism is available to 200 top companies in terms of market capitalisation.
- In an OFS, a minimum of 25 per cent of the shares

offered, are reserved for mutual funds (MFs) and insurance companies.

- At any point, no single bidder other than these two institutional categories is allocated more than 25 per cent of the size of the offering.
- A minimum of 10 per cent of the offer size is reserved for retail investors.
- A seller can offer a discount to retail investors either on the bid price or on the final allotment price.
- It is mandatory for the company to inform the stock exchanges two banking days prior to the OFS about its intention.

Hence only statements 1 and 3 are correct.

22. Ans: D

Parliamentary privileges, i.e. exceptional right or advantage, are granted to the members of legislatures worldwide. Thus, in most democratic countries, the legislatures and their members enjoy certain privileges to function effectively. It is, to a certain extent, an exemption from the ordinary law.

Feature of parliamentary privileges in the Indian Constitution is borrowed from the British Constitution. The Indian parliament's privileges among other provisions are contained in Article 79 to Article 122 of the Indian Constitution.

President is not entitled to parliamentary privileges. Without taking the oath before the Indian President, the privileges and immunities are not granted to the members of the parliament (MPs). Lok Sabha speaker is the guardian of the Lok Sabha members' privileges and the committees of this house of the parliament.

23. Ans: a

Explanation:

Statement 1 is correct and 3 is incorrect: The 'SemiconIndia 2023' is being organised by India Semiconductor Mission in partnership with industry and industry associations and aim to make India a global hub for Semiconductor Design, Manufacturing and Technology Development which will help propel the vision of India Semiconductor Mission.

Statement 2 is incorrect: This event was organized in the Gandhinagar, Gujarat.

24. Ans: (C)

Explanation:

Ethanol is one of the principal biofuels, which is naturally produced by the fermentation of sugars by yeasts or via petrochemical processes such as ethylene hydration. Ethanol Blending Programme (EBP) is aimed at reducing the country's dependence on crude oil imports, cutting carbon emissions and boosting farmers' incomes. An ethanol blend is defined as a blended motor fuel containing ethyl alcohol that is at least 99% pure, derived from agricultural products, and

blended exclusively with gasoline. Since it is plant-based, it is considered to be a renewable fuel. Hence, statement 1 is correct.

The Government of India has advanced the target for 20% ethanol blending in petrol (also called E20) to 2025 from 2030. A “Roadmap for Ethanol Blending in India 2020-25” was also released, which lays out a detailed pathway for achieving 20% ethanol blending. This roadmap also mentioned an intermediate milestone of 10% blending to be achieved by November 2022. Hence, statement 2 is correct.

Government has allowed ethanol production/procurement from sugarcane-based raw materials viz. C & B heavy molasses, sugarcane juice/sugar/sugar syrup, surplus rice with Food Corporation of India (FCI) and Maize respectively for blending with petrol under the Ethanol Blended Petrol (EBP) programme. Hence, statement 3 is correct.

25. Ans: (D)

Central Board of Film Certification (CBFC) is a statutory body under Ministry of Information and Broadcasting, regulating the public exhibition of films under the provisions of the Cinematograph Act 1952. Films can be publicly exhibited in India only after they have been certified by the Central Board of Film Certification.

The Board consists of non-official members and a chairman (all of whom are appointed by Central Government) and functions with headquarters at Mumbai. The members of the panels are nominated by Central Government by drawing people from different walks of life for a period of 2 years.

It has nine regional offices, one each at Mumbai, Kolkata, Chennai, Bangalore, Thiruvananthapuram, Hyderabad, New Delhi, Cuttack and Guwahati. The Regional Offices are assisted in the examination of films by Advisory Panels.

26. Ans: D

Tele Mental Health Assistance and Networking Across States (Tele-MANAS) initiative was launched by the Ministry of Health & Family Welfare during October 2022. It aims to provide free tele-mental health services all over the country round the clock, particularly catering to people in remote or under-served areas.

27. Ans: A

A loan write-off, also known as debt write-off, is a financial term used when a lender or creditor (bank) decides to cancel or forgive the outstanding debt owed by a borrower. However, a loan write-off does not mean that the borrower is absolved of their legal responsibility to repay the debt. After the write-

off, banks are supposed to continue their efforts to recover the loan using various options. Writing off a loan essentially means it will no longer be counted as an asset. By writing off loans, a bank can reduce the level of non-performing assets (NPAs) on its books. An additional benefit is that the amount so written off reduces the bank's tax liability.

28. Ans: A

India's G-20 Sherpa recently said that the Indian Prime Minister's proposal to make the African Union a permanent member of the G-20 has received an overwhelming response from the grouping.

About African Union (AU):

- The African Union (AU) is a continental body consisting of the 55 member states that make up the countries of the African Continent.
- It was officially launched in 2002 and replaced its predecessor, the Organization of African Unity (OAU), which was founded in 1963.
- Primary Objective: To promote unity, cooperation, and development among African nations while advancing the continent's interests on the global stage.
- It aims to strengthen political, economic, and social integration among African countries, with a vision of achieving an integrated, prosperous, and peaceful Africa.
- Headquarters: Addis Ababa, Ethiopia
- Structure:
 - Assembly: It is the highest decision-making body, consisting of the heads of state and government of member countries.
 - Executive Council: Made up of foreign affairs ministers, handles policy matters and makes recommendations to the Assembly.
 - AU Commission: Headquartered in Addis Ababa, is the administrative arm responsible for implementing the decisions of the Assembly and the Executive Council.
 - The Peace and Security Council: Responsible for maintaining peace and security on the continent.
 - The AU structure promotes the participation of African citizens and civil society through the Pan-African Parliament and the Economic, Social & Cultural Council (ECOSOCC).

Hence only statement 1 is correct.

29. Ans: B

- Recently, a research group in Japan has uncovered an exceptionally well-preserved fossil forest which belongs to the late Miocene epoch.
- The Miocene was a long-lasting epoch in which the earth's climate rebounded from the cooling of the Oligocene and there was a marked increase in

both global temperatures and the total number of mammal species.

- It is often divided into the Early Miocene Epoch (23 million to 16 million years ago), the Middle Miocene Epoch (16 million to 11.6 million years ago), and the Late Miocene Epoch (11.6 million to 5.3 million years ago).

What changes occurred during this period?

- India collided with Asia, causing a massive upthrust of the Asian continent that created the Tibetan plateau and the Himalayas.
- As Africa moved northwards to link with Europe, the Tethys Sea, a vast seaway that once existed between the two continents Europe and Africa, disappeared.
- As the Miocene progressed, the earth began to cool once more; the climate became more arid and mammalian diversity began to decrease again.
- Grasslands underwent a major expansion in the early Miocene and mammalian herbivores, including rhinos, and many artiodactyls, had to evolve a variety of new adaptation to cope with the more open and arid habitats and coarser vegetation.
- In the oceans, the Miocene was a time of changing circulation patterns, probably due to global cooling.
- Patterns of oceanic nutrient distribution changed, leading to increased productivity in some regions and decreased productivity in others.
- The Miocene was a time of accelerated evolution among marine plankton and mollusks, many groups showing increases in biological diversity.

Hence only statements 1 and 3 are correct.

30. Ans: B

E-cigarettes do not contain just water vapor and natural flavors; they typically contain nicotine and other chemicals that can have health risks. The Electronic Cigarettes Act, 2019 prohibits the production, manufacture, import, export, transport, sale, distribution and advertisement of e-cigarettes in India.

31. Ans: D

CEM is a high-level global forum to promote policies and programs for the development of clean energy technology. It also aims to share experience & best practices encouraging the transition to a global clean energy economy. e-FAST stands for Electric Freight Accelerator for Sustainable Transport – India. It is India's first electric freight platform. It aims to galvanize the transition towards cleaner and greener freight transportation.

32. Ans: B

The document aims to strengthen bilateral and economic partnership between India and Sri Lanka.

Both countries have decided to designate Indian Rupee as currency for trade settlements between the two countries. The document is based on five pillars: maritime connectivity; air connectivity; energy and power connectivity; trade, economic and financial connectivity and people-to-people connectivity.

33. Ans: B

- To spread education and awareness among the general public about the 'Fragile X Syndrome', every year 'World Fragile X Awareness Day' is observed on July 22 across the globe.
- It is an inherited genetic disease passed down from parents to children that causes intellectual and developmental disabilities.
- It is also known as Martin-Bell syndrome.
- It is the most common hereditary cause of mental disability in boys. It affects 1 in 4,000 boys.
- It's less common in girls, affecting about 1 in every 8,000. Boys usually have more severe symptoms than girls.
- People with FXS usually experience a range of developmental and learning problems.
- The disease is a chronic or lifelong condition. Only some people with FXS are able to live independently.
- The peculiar quality of this disease is that if it is inherited by the father, then it will only affect the daughter, but if it is inherited by the mother, then it can affect both genders.

What are the causes?

- It is caused by a defect in the FMR1 gene located on the X chromosome.
- The defect, or mutation, on the FMR1 gene prevents the gene from properly making a protein called the fragile X mental retardation 1 protein.
- This protein plays a role in the functioning of the nervous system.
- The exact function of the protein is not fully understood. A lack or shortage of this protein causes the symptoms characteristic of FXS.

Treatment

- It cannot be cured. Treatment is aimed at helping people with the condition learn key language and social skills.

Hence only statements 1 and 2 are correct.

34. Ans: B

The Soliga tribal community uses silver cockscomb, which is often considered to be a weed but has been discovered to have advantages.

- It is a short-lived 50-60 cm-tall plant considered as a weed, that bears simple, spirally arranged leaves around the stem with pinkish or silky white flowers.
- In Karnataka's Chamarajanagara district the silver cockscomb is referred to as anne soppu.

- Also known as lagos spinach which belongs to the Amaranthaceae family, which includes economically important plants like spinach (*Spinacia oleracea*), beetroot and quinoa.
- The plant is known as *Celosia argentea*, kurdu in Marathi and pannai keerai in Tamil.
- It grows well even on fallow land and in drought-like conditions.
- Its leaves have lower levels of oxalic acid and phytic acid.

Benefits

- Soligas use it as a nutritious leafy green vegetable, as it is high in nutrients such as beta-carotene and folic acids, and have vitamin E, calcium and iron.
- It is frequently used in traditional Chinese and Indian medicine for treating eye diseases and ulcers.

Hence only statements 1 and 3 are correct.

35. Ans: B

Henley Openness Index measures how many nations allow visa-free access to. India was ranked 94 out of a total of 97 ranks in Henley Openness Index 2023.

36. Ans: C

Researchers recently suggested the “brain fog” symptom associated with long Covid is equivalent to ageing 10 years.

About Brain Fog:

- Brain fog itself is not a medical condition but instead a symptom of other medical conditions.
- It is a term used to describe a variety of symptoms that can affect your ability to think clearly.
- Brain fog is characterized by confusion, forgetfulness, and a lack of focus and mental clarity.
- Some examples of things a person might do because of brain fog include:
 - forgetting about a task they had to complete;
 - taking much longer than usual to complete simple tasks;
 - feeling frequently distracted;
 - feeling tired when working;
- Causes: Brain fog is typically rooted in a lifestyle that promotes hormonal imbalances.
- Electromagnetic radiation – from computer, mobile phone, tablets
- Stress – reduce blood flow to the brain causing poor memory
- Lack of sleep, no exercise
- Diet: food allergies or sensitivities
- Toxins, pollution, chemical substances, and insecticides
- Medications
- Treatment: Treatment depends on the cause. For example, if you’re anemic, iron supplements may increase your production of red blood cells and reduce your brain fog.

Hence both statements are correct.

37. Ans: (B)

Explanation:

A waterspout is a column or funnel of ferociously whirling air that typically forms over the surface of the sea. It resembles a tornado. Hence, statement 1 is correct.

Most often, tropical and subtropical regions are where waterspouts develop. But on rare occasions, regions like Antarctica, Australia, New Zealand, and the Middle East also record these. Hence, statement 2 is incorrect.

Tornadoes that originate over water or migrate from land to water are referred to as tornadoes with waterspouts. They have many traits with a land tornado. They are linked to violent thunderstorms and frequently come with strong winds, rough seas, significant hail, and perilous lightning. Hence, statement 3 is correct.

38. Ans: (A)

Explanation:

Bacteriophages are not bacteria. They are viruses that infect bacteria. They have DNA or RNA as genetic material, but they are not bacteria themselves. Hence, statement 1 is incorrect.

Some bacteriophages are harmless to human cells and can be used as alternatives to antibiotics. However, other bacteriophages can be harmful to human cells. Hence, statement 2 is incorrect.

Bacteriophages were discovered by Frederick W. Twort in Great Britain (1915). However, the term “bacteriophage” was coined by Félix d’Herelle in 1917. Hence, statement 3 is correct.

Bacteriophages are not the reason for the non-contaminated water of River Ganga. The non-contaminated water of River Ganga is due to a combination of factors, including the high flow rate of the river, the presence of sand and gravel in the riverbed, and the presence of certain minerals in the water. Hence, statement 4 is incorrect.

39. Ans: (C)

Explanation:

A new agreement has been signed by Indian Navy with Ministry of culture to revive/rejuvenate 2,000-Year-Old Shipbuilding Technique and construction of the stitched ship. This technique is also known as Tankai’ method or the “stitched shipbuilding method. In this method, ship is constructed by stitching wooden planks together rather than using nails. This method offered flexibility and durability, making them less susceptible to damage from shoals and sandbars. Hence, statement 1 is correct while statement 2 is incorrect.

40. Ans: (C)

Explanation:

The global surge in artificial intelligence (AI) has

been fueled by the emergence of graphics processing units (GPUs). Graphics Processing Units (GPUs) are specialized electronic circuits or processors designed to accelerate and enhance graphics rendering tasks in computers, gaming consoles, and other devices. Graphics Processing Units (GPUs) have revolutionized AI globally. Originally for graphics tasks, GPUs excel in deep learning by executing parallel calculations, advancing AI models with larger datasets. CPUs are latency-oriented and task-parallel, while GPUs are throughput-oriented and data-parallel. GPUs' matrix operations make them ideal for AI. Hence, both statements are correct.

41. Ans: (B)

Explanation:

External commercial borrowing (ECB) is borrowing made in foreign currency by non-resident lenders to Indian borrowers. It is an instrument used in India to facilitate Indian companies to raise money outside the country in foreign currency. The government of India permits Indian corporates to raise money via ECB for the expansion of existing capacity as well as for fresh investments. Hence, statement 1 is correct.

ECBs provide an opportunity to borrow large volumes of funds. The funds are available for a relatively long term. Hence, statement 2 is incorrect.

The cost of funds is usually cheaper from external sources if borrowed from economies with a lower interest rate. For example Indian companies can usually borrow at lower rates from the U.S. and the Eurozone as interest rates are lower there compared to the home country, India. Hence, statement 3 is correct.

42. Ans: (A)

Explanation:

Endometriosis is a disease in which tissue similar to the lining of the uterus grows outside the uterus. It can cause severe pain in the pelvis and make it harder to get pregnant. Endometriosis can start at a person's first menstrual period and last until menopause. With endometriosis, tissue similar to the lining of the uterus grows outside the uterus. This leads to inflammation and scar tissue forming in the pelvic region and (rarely) elsewhere in the body. The cause of endometriosis is unknown. There is no known way to prevent endometriosis. There is no cure, but its symptoms can be treated with medicines or, in some cases, surgery. Hence, only statement 1 is incorrect.

43. Ans: (C)

Explanation:

Li-Fi uses special LED (light-emitting diodes) light bulbs as routers and works on optical wireless communications (OWC) technology. Li-Fi devices will deliver data through visible, infrared, or ultraviolet

light, unlike Wi-Fi routers, which use radio frequencies to transmit data. Li-Fi's speed is said to be 100 times faster than WiGig, the fastest Wi-Fi in the 60GHz frequency band, which can achieve a maximum speed of 7GB per second. Li-Fi decreases eavesdropping and jamming and facilitates centimeter-precision indoor navigation. If a user wants to use Li-Fi, they need a Li-Fi-equipped LED bulb in the room since light cannot penetrate walls like radio waves. Currently, developers are working to optimise mixed use of Wi-Fi and Li-Fi for homes and offices use. Hence, both statements are correct.

44. Ans: B

Recently, delegates from across the world have gathered at the 19th session of the Commission on Genetic Resources for Food and Agriculture (CGRFA) in Rome, Italy.

- It is the only permanent intergovernmental body that deals with all components of biodiversity for food and agriculture.
- It was established in 1983.
- Aim: To reach international consensus on policies for the sustainable use and conservation of genetic resources for food and agriculture and the fair and equitable sharing of benefits derived from their use.
- Member: It has 179 countries as its members.
- India is also a member of this commission.

Functions:

- The intergovernmental body guides the preparation of periodic global assessments of the status and trends of genetic resources and biodiversity for food and agriculture.
- It also develops global plans of action, codes of conduct or other policy instruments and monitors their implementation.
- Some of the Commission's landmark achievements include: the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA).
- It is not a United Nations specialized body.

Hence only statements 1 and 3 are correct.

45. Ans: D

The arhtiyas recently threatened to go on indefinite strike in the major fruit mandis in Himachal Pradesh to protest against the government's decision to sell apples by weight.

About Arhtiyas:

- "Arhtiyas" refers to commission agents or middlemen in the agricultural sector.
- Primary Functions:
- Procurement: Arhtiyas procure agricultural produce from farmers either directly from the farm or at local agricultural markets (mandis).
- Financial Services: They often provide credit to

farmers to meet their immediate financial needs, including inputs for the next cropping season or personal expenses.

- Storage: Arhtiyas may offer warehousing facilities for the storage of agricultural commodities.
- Marketing: They facilitate the sale of agricultural produce to wholesale buyers, such as government agencies or private traders, on behalf of the farmers.
- Commission: Arhtiyas charge a commission for their services, usually a percentage of the transaction value. The commission rates can vary depending on the region, crop, and prevailing market conditions.
- They play a significant role in the traditional agricultural marketing system, particularly in states like Punjab, Haryana, and Uttar Pradesh.
- Arhtiyas are an integral part of the Agricultural Produce Market Committee (APMC) system in India.

Hence all three statements are correct.

46. Ans: B

During a close Mercury flyby, the BepiColombo spacecraft collected data that showed how electrons raining down on the planet's surface are triggering X-ray auroras.

About BepiColombo:

- BepiColombo is a joint European Space Agency (ESA) and Japan Aerospace Exploration Agency (JAXA) mission to Mercury.
- The mission was named after Giuseppe "Bepi" Colombo, an Italian mathematician and engineer who made significant contributions to the understanding of Mercury's orbit.
- Launched on October 20, 2018, BepiColombo is an ambitious and complex mission designed to study Mercury's surface, composition, magnetic field, and its interaction with the solar environment.
- The BepiColombo spacecraft consists of two main components:
 - Mercury Planetary Orbiter (MPO): The MPO is primarily provided by ESA and is responsible for mapping and studying Mercury's surface, as well as its composition and topography.
 - Mercury Magnetospheric Orbiter (MMO): The MMO is provided by JAXA and focuses on studying Mercury's magnetic field and magnetosphere.
- Objectives:
 - Investigating Mercury's surface and composition to better understand its geological history and formation processes.
 - Studying Mercury's magnetic field and magnetosphere to gain insights into its internal structure and how it interacts with the solar wind.
 - Measuring Mercury's exosphere (a thin atmosphere) and understanding its composition and dynamics.

- Conducting experiments to test certain principles of general relativity and improve our understanding of gravity.

Hence only statement 2 is correct.

47. Ans: (D)

Statement 1 is correct: Jal Jeevan Mission aims for creation of water supply infrastructure so that every rural household has Functional Tap Connection (FHTC) by 2024. It also aims to provide 55 litres of tapped water per person per day to all households by 2024.

Statement 2 is not correct: Goa has earned itself the unique distinction of becoming first 'Har Ghar Jal' State in the country as it successfully provides 100% Functional Household Tap Connections (FHTCs) in the rural areas

Statement 3 is correct: The Jal Shakti Ministry is the nodal ministry for the implementation of the scheme

48. Ans: D

The country set a record for merchandise exports in the preceding fiscal year (2022-23) by shipping a record \$450 billion worth of goods abroad. In Q1 2023-24, exports declined: However, compared to the same quarter last year, exports of goods have significantly decreased in the first quarter of the current fiscal year (2023-24) by 15.1%

Changes in exchange rates might affect an exporter's ability to compete. A country's export demand may decline if its domestic currency is strong enough to make its goods and services substantially more expensive to international consumers.

49. Ans: B

Picolinic acid, a natural compound produced by mammalian cells, can block several viruses, including those responsible for SARS-CoV-2 and influenza A. Published in Cell Reports Medicine, the study describes the compound's remarkable ability to disrupt the entry of enveloped viruses into the host's cell and prevent infection. Picolinic acid is known to help in the absorption of zinc and other trace elements from our gut, but, in its natural form, it stays inside the body only for a short duration, and is usually excreted out quickly. In recent years, scientists have begun noticing that it may also exhibit anti-viral activity.

50. Ans: D

Recently NITI Aayog released the National Multidimensional Poverty Index, 2023 to assess the status of poverty level in India across states According to the index, India has registered a significant decline of 9.89% points in the number of multidimensional poor, from 24.85% in 2015-16 to 14.96% in 2019-2021. 13.5 Crore people came out of multidimensional poverty between 2015-16 and 2019-21.

The decline in poverty people is due to decrease in the number of multidimensional poor in States such as Bihar, Uttar Pradesh, Madhya Pradesh, Odisha, and Rajasthan.

Delhi, Kerala, Goa and Tamil Nadu have the least number of people facing multidimensional poverty along with the Union Territories. The report has been prepared based on the latest National Family Health Survey of 2019-21 and is the second edition of the National Multidimensional Poverty Index.

The index has 12 parameters of health, education, and standard of living.

- Nutrition
- Child And adolescent Mortality,
- Maternal health,
- Years of schooling,
- School attendance,
- Cooking fuel,
- Sanitation,
- Drinking water,
- Electricity,
- Housing,
- Assets, and
- Bank accounts.

51. Ans: D

CCHF is a viral haemorrhagic fever usually transmitted by ticks. The disease was first described in the Crimean Peninsula in 1944 and given the name Crimean haemorrhagic fever. The virus is present in the tick family of insects. The CCHF is endemic to Africa, the Balkan countries, Middle East, and parts of Asia. CCHF outbreaks constitute a threat to public health services as the virus can lead to epidemics. CCHF symptoms include fever, muscle ache, dizziness, neck pain, backache, headache, sore eyes and sensitivity to light.

Transmission to humans occurs through contact with infected ticks or animal blood. CCHF can be transmitted from one infected human to another by contact with infectious blood or body fluids”, such as sweat and saliva. There is no vaccine for the virus in either humans or animals, and treatment generally consists of managing symptoms.

52. Ans: B

NITI Aayog releases the third edition of the ‘Export Preparedness Index (EPI) 2022’ for States/UTs. The index is aimed at assessing the readiness of the states in terms of their export potential and performance. Export Preparedness Index 2022 is released by NITI Aayog. Tamil Nadu has topped the index which is followed by Maharashtra, Karnataka, Gujarat, Andhra Pradesh, Odisha, West Bengal and Kerala.

Among hilly/Himalayan states, Uttarakhand has

ranked at the top position and is followed by Himachal Pradesh, Manipur, Tripura, Sikkim, Nagaland, Meghalaya, Arunachal Pradesh and Mizoram. Haryana topped the chart among the landlocked regions. In the category of union territories/small states, Goa was ranked first. Karnataka and Tamil Nadu have the highest number of GI products being exported. The ranking is based on 4 main pillars: Policy, Business ecosystem, Export ecosystem and Export performance. The index is also aimed at promoting competition among all states.

53. Ans: A

Recently, the Directorate General of Foreign Trade (DGFT) implemented the Advance Authorisation Scheme under the Foreign Trade Policy, which allows duty-free import of inputs for export purposes.

- It allows duty free import of inputs, which are physically incorporated in an export product.
- In addition to any inputs, packaging material, fuel, oil, catalyst which is consumed / utilized in the process of production of export product, is also be allowed.
- They are not allowed to sell the products in the domestic market.
- The Advance Authorization is valid for 12 months from the date of issue of such Authorization.

Eligibility:

- This scheme is available to either a manufacturer exporter directly or a merchant exporter tied with a supporting manufacturer.
- It includes physical exports, intermediate supply, supplies made to specified categories of deemed exports.
- Duties exempt: The inputs imported are exempt from duties like Basic Customs Duty, Additional Customs Duty, Education Cess, Anti-dumping duty, Safeguard Duty and Transition Product-Specific Safeguard duty, Integrated tax, and Compensation Cess, wherever applicable, subject to certain conditions.

Hence only statement 1 is correct.

54. Ans: C

Prime Minister will inaugurate the New Integrated Terminal Building of Veer Savarkar International Airport, Port Blair via video conferencing.

About Veer Savarkar International Airport:

- Veer Savarkar International Airport, also known as Port Blair Airport, is a customs airport located 2 km (1.2 mi) south of Port Blair.
- It is the main airport of the Andaman and Nicobar Islands of India.
- It is named after the Indian freedom fighter Vinayak Damodar Savarkar.

- It is a civil airport, and its facilities are shared with the Indian Navy.
- The terminal is managed by the Airports Authority of India, while the traffic is handled by the Indian Navy.

Hence both statements are correct.

55. Ans: C

Central Government is considering resuming operations at ONGC Videsh Ltd's exploration block in Iraq, which has been under force majeure since 2003.

About Force Majeure:

- Force majeure is a French term that literally means "greater force."
- The concept of force majeure refers to an extraordinary event rendering the legal obligations between two or more contractually bound parties impossible to fulfill.
- It is related to the concept of an act of God, an event for which no party can be held accountable. This type of event must be entirely beyond the parties' reasonable control.
- As a precautionary measure against breach of contract, many commercial agreements contain force majeure contract clauses enumerating a list of major events that could result in non-performance of contractual duties.
- Notable events include war, riots, criminal activity, epidemics, pandemics, and other unforeseeable events.
- For force majeure to apply, these hindering circumstances must be beyond a party's reasonable control.
- The contracting parties must also prove their reasonable efforts to mitigate the circumstances that have rendered the fulfillment of their duties impracticable.
- Such events may result in the parties delaying their obligations for a period of time, revising the contract terms, or agreeing on the contract's cancellation.
- While force majeure has neither been defined nor specifically dealt with, in Indian statutes, some reference can be found in Section 32 of the Indian Contract Act, 1872 (the "Contract Act") envisages that if a contract is contingent on the happening of an event which event becomes impossible, then the contract becomes void.
- Force majeure conflicts with the concept of "pacta sunt servanda," a principle in international law that agreements must be kept and not wriggled out of.

Hence both statements are correct.

56. Ans: (C)

Explanation:

Hul Diwas, also known as Santhal Hool or Santhal

Rebellion Day, is an important observance in India that commemorates the Hul Rebellion or Santhal Rebellion of 1855-1856. It is celebrated on June 30th every year. Hence, statement 1 is correct.

The day specifically honors the sacrifices and resistance shown by tribal leaders such as Sidho-Kanhu, Chand-Bhairav, and Phulo-Jhano. Hence, statement 2 is correct.

57. Ans: (C)

Explanation:

Precision fermentation is a cutting-edge technology that combines traditional fermentation methods with precision biology techniques. It involves programming microorganisms, such as yeast, to produce specific proteins by inserting genetic instructions or DNA sequences into their cells. Precision fermentation reduces the environmental impact of food production by minimizing deforestation, soil degradation, and methane emissions from livestock. Hence, both statements are correct.

58. Ans: A

India receives about 1,200 mm of rainfall each year, yet only 6% is effectively captured and stored. Despite the Earth is predominantly covered in water, there is still need for water conservation because there is limited availability of freshwater (about 2.5%), and the majority of that is inaccessible in the form of glaciers and polar ice caps, increase in population worldwide has put stress on freshwater resources, climate change is also affecting rainfall patterns and leading droughts, along with other reasons. Industries such as agriculture, manufacturing, and energy production rely heavily on water, and imposing restrictions could negatively impact productivity and economic progress.

59. Ans: B

Direct Benefit Transfer (DBT) is a system implemented by governments to provide welfare benefits and subsidies directly to beneficiaries, bypassing intermediaries and ensuring efficient and transparent delivery of funds. Under the Aadhaar-enabled Payment System (AePS), an individual can use their biometric credentials to carry out banking transactions in Aadhaar-linked bank accounts. DBT encourages people, especially from rural and underprivileged backgrounds, to open bank accounts, thus promoting financial inclusion.

60. Ans: (C)

Statement 1 is correct: The United Nations Security Council is one of the six principal organs of the United Nations and is charged with ensuring international peace and security, recommending the admission of new UN members to the General Assembly, and approving any changes to the UN Charter

Statement 2 is correct: Any reform of the Security Council would require the agreement of at least two-thirds of UN member states in a vote in the General Assembly and must be ratified by two-thirds of Member States. All of the permanent members of the UNSC (which have veto rights) must also agree.

61. Ans: (C)

Mineral Security Partnership (MSP), a US-led collaboration of 14 countries that aims to catalyse public and private investment in critical mineral supply chains globally.

It aims to attract investment from governments and private sector for strategic opportunities, across the full value chain that will be as per the highest environmental, social, and governance standards.

The alliance is seen as primarily focused on evolving an alternative to China, which has created processing infrastructure in rare earth minerals and has acquired mines in Africa for elements such as Cobalt.

Recently, India has been inducted into the Mineral Security Partnership (MSP)

62. Ans: (B)

Explanation:

Just Energy Transition refers to the shift from reliance on non-renewable, fossil fuel-based energy sources to renewable, clean energy sources in order to mitigate the impacts of climate change and promote sustainability. The transition to a just energy system seeks to ensure that access to energy is equitable and benefits all members of society, rather than primarily benefiting corporations and the wealthy. It aims to reduce emissions in the energy sector and accelerate the coal phase-out process. Hence, statement 1 is correct.

Senegal has become the fourth country to sign the JET-P deal after South Africa, Indonesia, and Vietnam. India has not ratified the deal. Hence, statement 2 is incorrect.

JETP was launched at COP26 with support from the UK, US, France, Germany, and the EU. The G7 has also announced a similar partnership for India, Indonesia, Senegal, and Vietnam. India argues for equal terms in energy transition discussions, stating that coal should not be singled out as a polluting fuel. Hence, statement 3 is correct.

63. Ans: (B)

Explanation:

Recently, the cancer research arm of the World Health Organization (WHO), the International Agency for Research on Cancer (IARC), is reportedly set to list the artificial sweetener aspartame as "possibly carcinogenic to humans." Aspartame is widely used as a sugar substitute in various food and beverage

products, including diet soft drinks, chewing gum, and breakfast cereals.

Aspartame is several times sweeter than table sugar. Hence, food items made with small quantities of aspartame yield fewer calories on oxidation. This makes it an attractive option for people who want to reduce their calorie intake. Aspartame is readily oxidized outside the body, but it is not oxidized in the body due to lack of requisite enzymes. This means that the sweet taste of aspartame remains even after ingestion, but it does not yield any calories. Hence, statement 1 is incorrect.

Aspartame is several times sweeter than table sugar; hence food items made with small quantities of aspartame yield fewer calories on oxidation. It is composed of two amino acids, phenylalanine and aspartic acid, combined with a small amount of methanol. Hence, statement 2 is correct.

64. Ans: (C)

Explanation:

Recently, the Chemical and Fertilizer Ministry announced plans to establish nine Nano Urea plants across the country by 2025. The establishment of nine Nano Urea plants is part of a larger goal to achieve self-reliance in urea production and reduce dependence on imports. Urea is a chemical nitrogen fertiliser, white in colour, which artificially provides nitrogen, a major nutrient required by plants. Hence, statement 1 is correct.

Nano Urea Liquid is a nutrient to provide nitrogen to plants as an alternative to conventional urea. It reduces the requirement of conventional Urea by 50% or more. Hence, statement 2 is incorrect.

It has been developed and patented by the Indian Farmers Fertiliser Cooperative Limited (IFFCO). IFFCO Nano Urea is the only nano fertilizer approved by the Government of India and included in the Fertilizer Control Order (FCO). India has become the first country globally to start commercial production of Nano Urea. Hence, statement 3 is correct.

65. Ans: (B)

Explanation:

"Credit Information Company" means a company formed and registered under the Companies Act, 1956. CICs otherwise called as Credit Information Bureaus have details about all the creditors and borrowers in the financial system. Hence, statement 1 is correct.

CICs maintain credit information of borrowers (including individuals, corporate, SMEs) which can be accessed by banks and other lending institutions. CICs collect public data, credit transactions & payment histories of both individuals and companies. Hence, statement 2 is incorrect.

Both banks & Non-banking financial institutions refer to the CIC's report before granting loan or credit card. Unlike banks, people don't have direct access to CICs' database. They rate the borrowers in a scale of 300-900 with 900 being the highest rating. The companies often need to update the information so that the default player if subsequently makes the repayment their scale should be increased accordingly. Banks and finance companies normally take decision on the rating given by the credit bureaus. Hence, statement 3 is correct.

66. Ans: A

Giant Metrewave Radio Telescope (GMRT) is an array of 30 antennas positioned in a 'Y' fashion, centred at Pune, Maharashtra. It is used to detect the cosmic radio waves and support interferometry as well as array mode of operations. Atomic hydrogen gas content of galaxies 9 billion years ago was measured using GMRT. It was one of the world's six large telescopes that played a key role in finding the first direct evidence for the relentless vibrations of the fabric of the universe.

67. Ans: C

Red Tide is Harmful algal blooms (HABs) which are red in colour. It is caused by microscopic algae that produce toxins that kill fish and make shellfish dangerous to eat.

The toxins may also make the surrounding air difficult to breathe. Humans are unaffected unless they eat infected shellfish. It has sickened and killed an unknown number of sea lions and dolphins. Sea lions are Sentinel species, animals that can help identify environmental risks to humans.

HABs also include blooms of non-toxic species that have harmful effects on marine ecosystems. The human illnesses caused by HABs, though rare, can be debilitating or even fatal. HABs affect not only the health of people and marine ecosystems, but also the 'health' of local and regional economies.

68. Ans: C

Explanation:

Statement 1 is correct: Sugar industry is an important agro-based industry that impacts the rural livelihood of about 50 million sugarcane farmers and around 5 lakh workers directly employed in sugar mills. The sugar industry is the second largest agro-based industry in India after cotton.

Statement 2 is correct: India is the world's top Producer, User, and Second-largest Exporter of sugar.

According to the Indian Sugar Mills Association (ISMA), the sugar production of India rose by 3.69% to 12.07 million tonnes during the October-December quarter of 2022.

69. Ans: (C)

Explanation:

Greedflation refers to the phenomenon where companies increase prices beyond what is justified by actual production costs or market demand, driven by profit-seeking motives.

The article states that greedflation can contribute to inflationary pressures in an economy as prices rise without corresponding increases in production costs or demand. Greedflation is not associated with deflationary pressures.

70. Ans: (C)

Explanation:

Recently, eSARAS mobile App was launched by the Secretary of Union Ministry of Rural Development, Government of India at New Delhi. Hence, statement 1 is correct.

It is an e-commerce mobile app which will be used as a more effective platform for marketing of the products made by women of self-help groups. Hence, statement 2 is correct.

Along with that eSARAS Fulfilment Centre was also inaugurated. These centres will be managed by the Foundation for Development of Rural Value Chains (FDRVC - a Not for Profit Company constituted jointly by Ministry of Rural Development and Tata Trust). Hence, statement 3 is correct.

71. Ans: (A)

Recently, 2023 Shanghai Cooperation Organisation (SCO) summit is going to be held by India virtually.

The Shanghai Cooperation Organisation (SCO) is a Eurasian political, economic, international security and defence organization.

It is the world's largest regional organization in terms of geographic scope and population, covering approximately 60% of the area of Eurasia, 40% of the world population. Its combined GDP is around 20% of global GDP

India is not founding member of SCO. India joined the SCO in 2005 and became a full member of the group at the Astana Summit in 2017.

72. Ans: (D)

About National Sickle Cell Anaemia Elimination Mission:

Statement 3 is correct: The National Sickle Cell Anaemia Elimination Program, introduced in the Union Budget 2023, focuses on addressing the significant health challenges posed by sickle cell disease, particularly among tribal populations of the country.

Sickle cell disease (SCD) is a chronic single gene

disorder causing a debilitating systemic syndrome characterized by chronic anemia, acute painful episodes, organ infarction and chronic organ damage and by a significant reduction in life expectancy.

Implemented in 17 high-focus states across the country, this program aims to improve the care and prospects of all sickle cell disease patients while reducing the prevalence of the disease. The 17 states are- Gujarat, Maharashtra, Rajasthan, Madhya Pradesh, Jharkhand, Chhattisgarh, West Bengal, Odisha, Tamil Nadu, Telangana, Andhra Pradesh, Karnataka, Assam, Uttar Pradesh, Kerala, Bihar, and Uttarakhand.

Statement 1 is correct: The program is executed in a mission mode as part of the National Health Mission (NHM), aims to eliminate sickle cell genetic transmission by the year 2047, showing a long-term commitment to eradicating the disease.

Statement 2 is correct: Over a period of three years, spanning from the fiscal year 2023-24 to 2025-26, the program targets screening approximately 7.0 crore people. This ambitious goal highlights the program's dedication to reaching a large portion of the population, promoting early diagnosis and intervention.

73. Ans: (D)

Recently, The Gujarat International Finance Tec-City, popularly known as GIFT City, will expand by roughly 2,300 acres by incorporating four villages in Gujarat's Gandhinagar district.

GIFT City is a new Financial & Technology Gateway of India for the World. It consists of a conducive Multi-Service SEZ (Special Economic Zone) and an exclusive Domestic Area.

Statement 1 is correct. India's first operational smart city and international financial services center (IFSC) is located in Gandhinagar. It was promoted by the Government of Gujarat as a greenfield project.

Statement 2 is correct. The GIFT city is located on the bank of river Sabarmati connecting the Business capital (Ahmedabad) and Political capital (Gandhinagar) of Gujarat State- The Growth Engine of India.

Statement 3 is correct. Country's first international exchange, (India International Exchange (IFSC) Limited (India INX) located at International Financial Services Centre, GIFT City in Gujarat.

74. Ans: A

Centrally Sponsored Scheme 'Pradhan Mantri Poshan Shakti Nirman (PM POSHAN)' for providing one hot cooked meal in Government and Government – aided Schools from 2021-22 to 2025-26. The Scheme is being implemented by the Ministry of Education. Under the Scheme, there is provision of hot cooked meal to children of pre-schools or Bal Vatika (before

class I) in primary schools also in addition to the 11.80 crore children of classes I to VIII studying in 11.20 lakh schools. The Scheme is implemented across the country covering all the eligible children without any discrimination of gender and social class.

The main objectives of the PM POSHAN Scheme (earlier known as Mid-Day Meal Scheme) are to address two of the pressing problems for majority of children in India, viz. hunger and education by improving the nutritional status of eligible children in Government and Government-aided schools as well as encouraging poor children, belonging to disadvantaged sections, to attend school more regularly and help them concentrate on classroom activities.

75. Ans: B

In genetics and developmental biology, somatic cell nuclear transfer (SCNT) is a laboratory strategy for creating a viable embryo from a body cell and an egg cell. The technique consists of taking an enucleated oocyte (egg cell) and implanting a donor nucleus from a somatic (body) cell. It is used in both therapeutic and reproductive cloning.

76. Ans: (C)

Explanation:

Chandrayaan-3 is a follow-on mission to Chandrayaan-2 to demonstrate end-to-end capability in safe landing and roving on the lunar surface. It consists of Lander and Rover configurations. Hence, statement 1 is correct.

Chandrayaan-3 consists of an indigenous Lander module (LM), a Propulsion module (PM), and a Rover with the objective of developing and demonstrating new technologies required for interplanetary missions. Hence, statement 2 is correct.

77. Ans: (C)

Explanation:

IPRS rates the country's industrial parks and special economic zones. It is an extension of the India Industrial Land Bank (IILB) platform. It rates industrial parks across four pillars:

- Internal infrastructure and utilities
- External infrastructure and facilities
- Business support services
- Environmental and safety management

78. Ans: B

Recently the Prime Minister congratulated new homeowners in Bengaluru's first project under SWAMIH Fund which has helped more than 3000 families in owning their dream homes. SWAMIH Investment Fund is a government backed fund, set up as a Category-II AIF (Alternate Investment Fund) debt fund registered with SEBI (Securities and Exchange Board of India). It was launched in

2019 as a social impact fund specifically formed for completing stressed and stalled residential projects. The Fund is sponsored by the Ministry of Finance and is managed by SBICAP Ventures Ltd. (a State Bank Group company).

79. Ans: (D)

The CH₃⁺ molecule, which is also known as methyl cation, has been detected in space for the first time by the James Webb Space Telescope (JWST). It was detected in the star and protoplanetary disc system located about 1,350 light-years away in the Orion Nebula which is 1,350 light years from Earth.

The James Webb Space Telescope is developed by NASA with the assistance of the European Space Agency (ESA) and the Canadian Space Agency. It is currently at a point in space known as the Sun-Earth L2 Lagrange point, approximately 1.5 million km beyond Earth's orbit around the Sun.

80. Ans: (C)

Explanation:

The BBNJ Treaty, or Treaty of the High Seas, regulates activities in international waters to sustainably manage fishing, mining and oil extraction while minimizing harm to marine biodiversity. Hence, statement 1 is correct.

The BBNJ Treaty covers the high seas, which account for almost half of the Earth's surface, aiming to protect biodiversity in these vast international waters. Hence, statement 2 is correct.

The BBNJ Treaty promotes Marine Protected Areas (MPAs) and increased funding for marine conservation. It establishes a framework for creating MPAs in international waters to safeguard marine biodiversity and enhances financial resources and technology transfer for conservation efforts. Hence, statement 3 is correct.

81. Ans: (D)

Explanation:

WISE-KIRAN is a government program in India that encourages women's participation in science and technology through scholarships, fellowships and training. Hence, statement 1 is correct.

The Indo-US Fellowship for Women in STEM provides collaborative research opportunities for Indian women scientists in the United States, fostering international collaborations with leading institutions. Hence, statement 2 is correct.

GATI (Gender Advancement for Transforming Institutions) promotes gender sensitivity in Indian science and technology. It transforms institutions by adopting inclusive policies, equal opportunities and a supportive environment for women in STEM. Hence,

statement 3 is correct.

BioCARE is a program in India that supports women scientists in biotechnology research. It offers financial assistance, research grants, training and mentorship to empower women and foster their professional growth. Hence, statement 4 is correct.

82. Ans: (A)

Explanation:

Naegleria fowleri is a type of free-living amoeba that can cause a rare but severe infection known as primary amebic meningoencephalitis (PAM). It is commonly referred to as a "brain-eating amoeba" because it can enter the human body through the nose and reach the brain, causing inflammation and destruction of brain tissue.

83. Ans: (C)

Explanation:

The Indian Ocean Geoid Low (IOGL) is a profound gravitational anomaly in the Indian Ocean. Discovered in 1948 by Felix Andries and Vening Meinesz, it spans over three million square kilometres, around 1,200 kilometres southwest of India's southern tip. Estimated to have formed 20 million years ago, the IOGL consists of slabs from the Tethys Ocean, a lost sea that submerged into the Earth. Hence, statement-I is correct.

The gravity hole is a region of the ocean where the effects of gravity are less than usual. Hence, statement-II is incorrect.

84. Ans: (C)

Explanation:

Annapurta is a Grain ATM developed by WFP India, providing fast and precise distribution of subsidized grains to beneficiaries through the Public Distribution System. It offers automated multi-commodity dispensing, ensuring efficient access to commodities like rice, wheat and grains. Hence, statement 1 is correct.

Annapurta offers 24x7 access to full entitlements, eliminating spillage, waste and inaccurate weighing. It can dispense one or two grain commodities up to 50 kilograms within five minutes, with minimal error. Hence, statement 2 is correct.

85. Ans: (A)

Explanation:

Geocoding converts an address or description of a location into geographic coordinates. The functionality is available for normal, composition, SEZ units, SEZ developers, input service distributor and casual taxpayers who are active, cancelled, and suspended. This is a one-time activity and once submitted, revision in the address is not allowed.

It has been introduced to ensure the accuracy of address details in GSTN records and streamline the address location and verification process. It is different from geo-tagging of assets created under MGNREGA which involves generation of an asset ID on the NREGS Soft after completion of work and marking it as a primary asset by the programme officer or the Gram Panchayat.

Hence, both Statement-I and Statement-II are correct and Statement II is the correct explanation for Statement-I.

86. Ans: B

Solar flares affect all layers of the solar atmosphere (photosphere, chromosphere, and corona). The plasma medium is heated to tens of millions of kelvins, while electrons, protons, and heavier ions are accelerated to near the speed of light. Flares produce electromagnetic radiation across the electromagnetic spectrum at all wavelengths, from radio waves to gamma rays. Most of the energy is spread over frequencies outside the visual range; the majority of the flares are not visible to the naked eye and can only be observed with special instruments.

A solar flare is an intense localized eruption of electromagnetic radiation in the Sun's atmosphere. Flares occur in active regions and are often, but not always, accompanied by coronal mass ejections, solar particle events, and other solar phenomena.

87. Ans: B

The hydrogen buses are like an electric bus, in that hydrogen interacts with a 'fuel cell' battery producing electricity and no carbon emissions. Hydrogen fuel cells use hydrogen as a fuel in an electrochemical process that combines hydrogen and oxygen to produce electrical energy and water. At the anode, a catalyst separates the hydrogen molecules into protons and electrons and both subatomic particles take different paths to the cathode.

88. Ans: C

Under NBS, the government fixed a per-kg subsidy for each fertiliser nutrient: Nitrogen (N), phosphorus (P), potash (K) and sulphur (S). This was as against the earlier product-specific subsidy regime.

Linking subsidy to nutrient content was intended to promote balanced fertilisation by discouraging farmers from applying too much urea, di-ammonium phosphate (DAP) and muriate of potash (MOP). These are fertilisers with high content of a single nutrient: Urea (46% N), DAP (46% P plus 18% N) and MOP (60% K).

NBS was expected to induce product innovation, besides more use of complex fertilisers (having lower

concentrations of N, P, K and S in different proportions) and SSP (containing only 16% P but also 11% S).

89. Ans: B

The Pacific Island Countries are located largely in the tropical zone of the Pacific Ocean between Asia, Australia and the Americas. They include Cook Islands, Fiji, Kiribati, Republic of Marshall Islands, Federated States of Micronesia (FSM), Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

The islands are very small in land area, and are spread wide across the vast equatorial swathe of the Pacific ocean. As a result, though they are some of the smallest and least populated states, they have some of the largest Exclusive Economic Zones (EEZs) in the world.

90. Ans: A

Generally tightening of monetary policy by the US Federal Reserve leads to Foreign portfolio investments (FPI) sell-off in the Indian Stock market. Analysts said a lower rupee against the dollar keeps import bills higher. Higher inflation is detrimental to the overall market. If the rupee does not strengthen, FPI outflows will continue, which is another negative.

A strong dollar is good for export-oriented companies, but bad for import-oriented industries such as oil, gas and chemicals. With the dip in the rupee, oil imports and other imported components will get costlier, which will further lead to higher inflation. Travellers and students studying abroad will have to shell out more rupees to buy dollars from banks.

91. Ans: (D)

Statement 1 is correct:

The Atal Vayo Abhyuday Yojana (AVYAY) is introduced by the Ministry of Social Justice and Empowerment, is a comprehensive initiative aimed at empowering senior citizens in India.

This scheme recognizes the invaluable contribution made by the elderly to society and seeks to ensure their well-being and social inclusion.

Statement 2 is correct: Under the umbrella Scheme, Atal Vayo Abhyuday Yojana (AVYAY), an Integrated Programme for Senior Citizens (IPSRc) provides financial assistance to eligible organization's for running and maintenance of Senior Citizen Homes/ Continuous Care Homes to improve the quality of life of the senior citizens, especially indigent senior citizens by providing basic amenities, entertainment opportunities and by encouraging productive and active ageing.

Statement 3 is correct: Another component under the AVYAY Scheme is Rashtriya Vayoshri Yojana (RVY), to provide eligible senior citizens suffering from any of the age-related disability/ infirmity, with assisted

living devices which can restore near normalcy in their bodily functions, overcoming the disability/ infirmity manifested such as low vision, hearing impairment, loss of teeth and loco-motor disabilities.

Financial criteria for beneficiaries are either the Senior Citizen belongs to 'Below Poverty Line' (BPL) category or he/ she has income up to Rs. 15,000 (Rupees Fifteen Thousand) per month.

92. Ans: (A)

Explanation:

Klotho is a protein that is primarily produced in the kidneys. It has been shown to suppress both oxidative stress and age related inflammation and hence makes it an effective anti-inflammatory and anti-aging factor. Hence, statement 1 is correct.

Klotho is a 'longevity factor' protein, a naturally occurring protein that declines in our bodies with age. Previous research on mice had shown that injections of klotho can extend the animals' lives and increase synaptic plasticity (the capacity to control communication between neurons, at junctions called synapses). Injecting ageing monkeys with Klotho can improve their cognitive function, a study published in Nature Aging reveals. The findings could lead to new treatments for neurodegenerative diseases. Hence, statement 2 is incorrect.

93. Ans: (D)

Explanation:

Recently, the Securities and Exchange Board of India (SEBI) board is expected to discuss important matters related to Foreign Portfolio Investor (FPI) disclosure norms and the Total Expense Ratio (TER) charged by mutual funds.

Total Expense Ratio (TER) refers to the percentage of a mutual fund's assets that is charged as expenses to investors. TER is calculated by dividing the total expenses incurred by a mutual fund scheme by its average net assets. The expenses covered by TER include sales and marketing expenses, administrative costs, investment management fees, audit fees, registrar fees, transaction costs, custodian fees and other operational expenses.

TER is a crucial metric for investors as it directly impacts the overall return on investment. Lower TER indicates lower expenses and potentially higher returns for investors.

94. Ans: (A)

Explanation:

Scientists detected phosphine in Venus' atmosphere. Phosphine, which comprises hydrogen and phosphorus, is a flammable, colorless and toxic gas on Earth that's often thought of as swamp gas. Hence, statement 1 is correct.

It is produced by microorganisms living in a very low oxygen environment. Application: semiconductor industry, as a fumigant, intermediate in several flame retardants etc. Hence, statement 2 is incorrect.

95. Ans: (B)

Explanation:

Peru has declared a state of national emergency amid a surge in patient suffering from Guillain-Barré syndrome. It is a rare neurological disorder in which immune system mistakenly attacks part of the peripheral nervous system. Hence, statement 1 is correct.

It is not contagious or inherited and its exact cause remains unknown. Hence, statement 2 is incorrect.

There is no known cure for Guillain-Barré syndrome. Hence, statement 3 is correct.

96. Ans: (C)

Explanation:

Recently, President Droupadi Murmu had a meeting with the Secretary General of the Muslim World League, at Rashtrapati Bhavan in New Delhi. Muslim World League (MWL) is an international non-governmental organization (NGO) established in 1962. It was founded in accordance with a resolution adopted during the meeting of the General Islamic Conference, which was held in Holy Makkah on the 14th to the 18th May 1962. India is the country with the second-largest population of Muslims in the world. It is an Observer in the Economic and Social Council (ECOSOC). Hence, all statements are correct.

97. Ans: (B)

Explanation:

New study of sediments from a seasonal lake in Kaas Plateau has indicated a major shift in Indian Summer Monsoons. Kaas plateau or pathar, also known as valley of flower, is located in Satara District, Maharashtra. It falls in biosphere of Western Ghats. Its name is derived from Kaasa tree, botanically known as *Elaeocarpus glandulosus* (rudraksha family). It is made of igneous rocks. This plateau is inscribed in UNESCO World Natural Heritage Site lists under the name of Western Ghats. Hence, statement 2 is incorrect.

98. Ans: (A)

Explanation:

Researchers from India and Japan have developed a disease-modifying treatment for DMD. DMS is a rare genetic disease characterized by progressive muscle degeneration and weakness due to alterations of a protein called dystrophin. Muscle weakness is the principal symptom of DMD. Hence, statement 1 is correct.

It can begin as early as age 2 or 3, primarily affects boys, but in rare cases it can affect girls. Women are usually carriers of the genetic trait. Hence, statement 2 is incorrect.

99. Ans: (C)

Explanation:

Recently, the BHARAT (Building Human Assets and Resilient Agriculture) campaign was launched to raise Rs 7200 crore under the Agri Infra Fund from July 15th to August 15th, 2023. It is an important campaign initiated by the Government of India.

Objectives:

- Enhancing agricultural productivity and income of farmers.
- Promoting sustainable farming practices and reducing environmental degradation.
- Strengthening the value chains and market linkages for agricultural produce.
- Ensuring better access to credit, insurance, and technology for farmers.
- Empowering women farmers and promoting gender equality in agriculture.
- Improving rural infrastructure and providing essential services to farming communities.

- Enhancing research and development efforts in agriculture for innovation and technology adoption.
- Promoting skill development and capacity building of farmers and rural youth.

100. Ans: (B)

Explanation:

Amrit Bharat Station Scheme (ABSS) envisages development of stations on a continuous basis with a long-term vision. The scheme will subsume all previous redevelopment projects where work is yet to begin. The scheme aims at preparation of Master Plans of the Railway stations and implementation of the Master Plan in phases to enhance the facilities including and beyond the Minimum Essential Amenities.

The model envisages low-cost redevelopment of stations which can be executed timely. The scheme shall cater for introduction of new amenities as well as upgradation and replacement of existing amenities.

Hence, both Statement-I and Statement-II are correct and Statement II is not the correct explanation for Statement-I.

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