

# General Studies

## Current Affair Test (July-2023)

### 1. Ans: C

Statements 1 and 3 are incorrect. Economist Intelligence Unit (EIU) has released the Global Liveability Index 2023. The index ranked the cities based on these five metrics: healthcare, culture, environment, education, and stability. Statement 2 is correct. Some cities in Western Europe have slipped in rankings due to increased instances of workers' strikes failing to "match gains" made by cities in Asia and the Middle East.

### 2. Ans: D

The Golden Crescent refers to a region in Southwest Asia that comprises Pakistan, Afghanistan, and Iran. These countries are geographically connected, forming a crescent-shaped area. Hence statement 1 is correct.

Afghanistan is known as the largest contributor to illicit opium production within the Golden Crescent region. It is a major producer of opium poppy, which is the primary source of heroin. Hence, statement 2 is correct.

While Pakistan is part of the Golden Crescent and engages in opium production, its output is considerably lower compared to Afghanistan. Pakistan's opium production is relatively smaller in scale. Hence, statement 3 is correct.

The Golden Triangle refers to a region in Southeast Asia composed of three neighboring countries: Laos, Thailand, and Myanmar. It is another significant area known for its illicit opium production and drug trafficking activities. Hence, statement 4 is correct.

### 3. Ans: B

U.S President Joe Biden and Prime Minister Narendra Modi welcomed India's plans to procure General Atomics MQ-9B High Altitude Long Endurance (HALE) Unmanned Aerial vehicles (UAV), the joint statement issued last week after talks between the two leaders said. The MQ-9B has two variants — the SkyGuardian and the SeaGuardian, its maritime variant. The MQ-9B is designed to fly over the horizon via satellite for up to 40 hours, depending on configuration.

### 4. Ans: A

Chronic Myeloid Leukaemia (CML) is one of the types of Leukemia, which is a blood-cell cancer that affects the bone marrow and the blood. Other types are:

Acute Lymphoblastic Leukemia (ALL)

Acute Myeloid Leukemia (AML)

Chronic Lymphocytic Leukemia (CLL).

- CML is characterized by the uncontrolled growth of abnormal white blood cells called myeloid cells. Hence, statement 1 is correct.

- CML typically progresses slowly, and it is often diagnosed during the chronic phase. Hence, statement 2 is not correct.
- **Diagnosis:** CML is typically diagnosed through a combination of blood tests and bone marrow examination.

### 5. Ans: C

Wagner Group is the mercenary organisation was first identified in 2014, during Russia's annexation of Crimea. It's essentially a network of contractors that supply soldiers for hire and the group got registered as a company in 2022. Headquarters: St Petersburg.

Initially, the Wagner Group remained mostly secretive and consisted of just 5,000 fighters, active particularly in Africa and West Asia. It expanded to comprise 50,000 fighters just in Ukraine.

**Countries where the Wagner Group has been active**

- Ukraine
- Syria
- Sudan
- Central African Republic
- Mozambique
- Mali
- Burkina Faso
- Libya

### 6. Ans: B

India and Egypt have a long history of contact dating back to the time of Emperor Ashoka. They shared relations during the rule of Ptolemy II. Mahatma Gandhi and Egyptian revolutionary Saad Zaghloul had a common goal of independence from British colonial rule. Diplomatic relations were established in 1947, and a friendship treaty was signed in 1955. India condemned the attack on Egypt during the 1956 Suez Crisis and tried to mediate. Both countries were founding members of the Non-Aligned Movement (NAM) in 1961. China's bilateral trade with Egypt is currently higher than India's.

### 7. Ans: A

**Kendra Sahitya Akademi Bal Sahitya Puraskar 2023**

- Recently, Priya A S has been awarded the prestigious Kendra Sahitya Akademi Bal Sahitya Puraskar 2023 in the Malayalam language for her novel Perumazhayathe Kunjithalukal. The novel Perumazhayathe Kunjithalukal, set against the backdrop of the 2018 Kerala floods, captures the resilience and unity displayed by children from diverse backgrounds during the calamity. Hence, statement 1 is correct.
- Sahitya Akademi award established in 1954, is a literary honour that is conferred annually by

Sahitya Akademi, India's National Academy of letters.

- Akademi gives 24 awards annually to literary works in the languages it has recognized and an equal number of awards to literary translations from and into the languages of India. Hence, statement 2 is correct.

### 8. Ans: C

International Sustainability Standards Board (ISSB) recently released a new set of G20-backed global rules aimed at helping regulators crack down on greenwashing.

#### About Greenwashing:

What is it? It is the process of conveying a false impression or misleading information about how a company's products are environmentally sound.

- Greenwashing involves making an unsubstantiated claim to deceive consumers into believing that a company's products are environmentally friendly or have a greater positive environmental impact than they actually do.
- In addition, greenwashing may occur when a company attempts to emphasize sustainable aspects of a product to overshadow the company's involvement in environmentally damaging practices.
- Companies can also greenwash initiatives with vague claims that don't provide real data or scientific validation for the claims.
- For example, a car vendor claims that a vehicle is eco-friendly because it is more fuel-efficient, while failing to mention or consider the larger industrial impact of vehicle manufacturing on the environment.

#### What is the International Sustainability Standards Board (ISSB)?

- It was created in 2021-22 to develop a worldwide standard for sustainability reporting.
- It is part of the independent International Financial Reporting Standards (IFRS) foundation, which also writes accounting rules used in more than 100 countries.
- The mission of the ISSB is to develop—in the public interest—a comprehensive global baseline of high-quality sustainability disclosure standards to meet investors' information needs.

Hence all three statements are correct.

### 9. Ans: A

The Max Planck Institute of Animal Behaviour (MPI-AB) recently discovered that the method by which hyenas inherit rank from their mothers, known as maternal inheritance, corrodes individuals' social position.

#### About Hyenas:

- Hyenas are doglike carnivores found in Asia and Africa and are noted for their scavenging habits.
- **Family:** Hyaenidae
- There are three hyena species — spotted (*Crocuta crocuta*), brown (*Arahyaena brunnea*), and striped

(*Hyaena hyaena*). Spotted hyenas are the largest of the three.

- **Habitat:** Forest edges, grasslands, savannas, sub-deserts, and even mountains at an elevation of about 13,000 feet.
- **Distribution:** These animals live throughout Africa, the Middle East, and parts of Asia.

#### Features:

- They are four-legged animals with scraggly fur and large ears.
- They have long forelegs and a powerful neck and shoulders for dismembering and carrying prey.
- They are tireless trotters with excellent sight, hearing, and smell for locating carrion, and they are proficient hunters as well.
- All hyenas are more or less nocturnal.
- These animals usually live for about 12 years, but they can live up to 25 years. Brown hyenas, however, typically have shorter lives.
- **Conservation Status:** According to IUCN, spotted hyenas have populations of least concern. However, brown and striped hyenas are classified as near threatened.

Hence only statement 1 is correct.

### 10. Ans: D

Recently, The Prime Minister of India greeted people on the occasion of Kharchi Puja.

- It is one of the main festivals of Tripura.
- It is performed during the months of July-August on the eighth day of the new moon.
- The meaning of Kharchi can be understood by splitting the word into two Tripuri words "Khar" or Kharta meaning sin and "Chi" or si meaning cleaning. Hence it signifies the cleansing of our sins.
- It occurs during the month of 'Ashad' on the 'Shukla Ashtami' day.
- The fourteen Gods are worshipped by the Royal priest 'Chantai'.
- It lasts for seven days and it takes place at old Agartala in the Fourteen Gods temple known as the 'Chaturdasha Devata' temple premises.
- The Kharchi Puja deities do not have a full body; they have only heads which are worshipped.
- On the day of the puja, the fourteen Gods are taken from the temple to the river Saidra by the Chantai members and given bathe with the holy river water, then carried back to the temple.
- This festival's customs are completely related to the authentic Tripuri traditions.
- Hence both statements are not correct.

### 11. Ans: C

ART, which stands for Assisted Reproductive Technology, refers to a range of medical procedures and technologies designed to assist individuals or couples in achieving pregnancy. These techniques are used when natural conception is difficult or not possible. Hence, statement 1 is correct

In vitro fertilization (IVF) is a method of assisted reproductive technology (ART) where eggs are retrieved from the ovaries, fertilized with sperm in a laboratory setting, and then transferred to the uterus. Hence, statement 2 is correct

Surrogacy is a process in which another woman, known as a surrogate or gestational carrier, carries and gives birth to a baby on behalf of individuals or couples who are unable to conceive or carry a pregnancy themselves. Hence, statement 3 is correct

**12. Ans: C**

INS Sunayna is the second Saryu-class patrol vessel of the Indian Navy, designed and constructed indigenously by the Goa Shipyard Limited. It is designed to undertake fleet support operations, coastal and offshore patrolling, ocean surveillance and monitoring of sea lines of communications and offshore assets and escort duties. Hence, both statements are correct.

**13. Ans: D**

- Recently Union Minister for Power and New & Renewable Energy has released National Energy Data: Survey & Analysis, 2021-22 which aims to provide energy supply and consumption patterns across various sectors of Indian economy. The report aims to provide information about energy supply and consumption patterns across various sectors of the India economy. The report has been prepared by Ministry of Power through Bureau of Energy Efficiency in collaboration with NITI Aayog.
- This report also provides an overview of the impact of various energy conservation policies and their associated carbon dioxide emission reduction and monetary savings.
- Both energy supply and consumption have decreased for the last few years. Energy supply to economy during last six years is actually less by 18%.

**14. Ans: D**

- On recent official visit of Indian Prime minister to USA, the following areas of cooperation were singled.
- Technology partnership
- **Critical Minerals Partnership:** India became the newest partner of the US-led Minerals Security Partnership (MSP) that has been established to accelerate the development of diverse and sustainable critical energy minerals supply chains globally.
- **NASA-ISRO collaboration in space:** India has signed the Artemis Accords, joining 26 other countries committed to peaceful, sustainable, and transparent cooperation that will enable exploration of the Moon, Mars, and beyond.
- **Innovation Handshake:** To support the US-India Initiative on Critical and Emerging Technology (iCET), the US-India Commercial Dialogue will launch a new “Innovation Handshake” to connect the startup ecosystems of the two countries.

- **GE F414 Engine Co-Production:** The Joint Statement welcomed the groundbreaking proposal by General Electric to jointly produce the F414 jet engine in India. GE and Hindustan Aeronautics Limited (HAL) have signed a MoU, and a manufacturing licence agreement has been submitted for Congressional Notification. The first-of-its-kind initiative to manufacture F414 engines in India will enable greater transfer of US jet engine technology than ever before.

**15. Ans: B**

Statements 1 and 3 are correct. iDEX is funded and managed by the Defence Innovation Organization (DIO). It was launched by the Government of India in 2018. It has showcased the power of collaborative teamwork among diverse organizations within the Ministry of Defence. Statement 2 is incorrect. iDEX primarily aims at creation of an ecosystem to foster innovation and technology development in Defence and Aerospace by engaging Industries including MSMEs, start-ups among others. Thus, reducing the dependence on defence imports.

**16. Ans: C**

- Seaweeds are macroalgae attached to rock or other substrata and are found in coastal areas. Hence, statement 1 is correct.
- They are classified as chlorophyta (green), rhodophyta (red) and phaeophyta (brown) on the basis of their pigmentation.
- Among them, chlorophyta holds more potential components — carbohydrates, lipids, proteins and bioactive compounds.
- Seaweeds are rich in essential nutrients, including vitamins, minerals and dietary fibre.
- When waste from agriculture, industries, aquaculture and households are let into the ocean, it causes nutrient imbalance leading to algal blooming, the sign of marine chemical damage.
- Seaweeds absorb the excess nutrients and balance out the ecosystem.
- Hence, statement 3 is correct.
- They can be used in development of Supercapacitors.
- Recently, Scientists at the Gujarat Energy Research and Management Institute (GERMI) have created a supercapacitor by using cellulose nanofibers derived from seaweed, the team successfully created an anodic paper supercapacitor.
- Hence, statement 2 is correct.

**17. Ans: B**

BIS recently notified 31 Indian standards related to Ayush, which includes 30 herbs and 1 product (stainless steel neti pot). These standards were recently published through gazette notification.

**About Bureau of Indian Standards (BIS):**

- BIS is the National Standards Body of India established under the BIS Act 2016.
- **Objective:** Harmonious development of the activities



of standardisation, and quality assurance of goods and articles.

- It works under the Ministry of Consumer Affairs, Food & Public Distribution.
- BIS represents India in International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC).

#### What is ISO?

- It is an independent, non-governmental international organization with a membership of 167 national standard bodies.
- Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based, market-relevant International Standards that support innovation and provide solutions to global challenges.

#### What is IEC?

- The IEC is a global, not-for-profit membership organization, whose work underpins quality infrastructure and international trade in electrical and electronic goods.
- The IEC brings together more than 170 countries and provides a global, neutral and independent standardization platform to 20 000 experts globally.
- It administers 4 Conformity assessment systems whose members certify that devices, systems, installations, services and people work as required.

Hence only statements 1 and 3 are correct.

#### 18. Ans: C

- Denotified tribes (DNTs) were indeed considered "born criminals" under British rule through laws like the Criminal Tribes Act of 1871. This act stigmatized certain tribes and communities as criminal by birth and subjected them to surveillance, restrictions, and discriminatory treatment. Hence, statement 1 correct
- The National Commission for De-notified, Nomadic, and Semi-Nomadic Tribes (NCDNT) was established in 2003 and reconstituted in 2005. The commission's purpose is to study the social, economic, and educational conditions of denotified tribes, nomadic tribes, and semi-nomadic tribes and make recommendations for their welfare and development. Hence, statement 2 is correct.
- The Development and Welfare Board for De-notified, Nomadic, and Semi-Nomadic Communities (DWBDNC) does operate under the Ministry of Social Justice and Empowerment. This board works towards the empowerment, welfare, and development of denotified tribes, nomadic tribes, and semi-nomadic tribes in India. Hence, statement 3 is correct.

#### 19. Ans: B

Global Gender Gap Report is released annually by the World Economic Forum (WEF) since 2006. It measures gender parity in 146 countries and across four areas: economic participation and opportunity,

educational attainment, health and survival and political empowerment. India was ranked at 127 out of 146 countries in terms of gender parity, an improvement of eight places from last year.

According to the report, India had attained parity in enrolment across all levels of education. Iceland is the most gender-equal country in the world for the 14th consecutive year and the only one to have closed more than 90% of its gender gap.

#### 20. Ans: C

It is an intergovernmental organization that promotes cooperation among countries in the Asia-Pacific region to enhance plant health and plant protection. It was established in 1956 as a regional body approved by the Food and Agriculture Organization (FAO) of the United Nations.

**Member Countries:** The commission consists of 25 member countries, including India.

The Commission consists of representatives of all member countries and elects amongst them a Chairperson who serves for a period of two years. The Director-General of the Food and Agriculture Organization appoints and provides the secretariat that coordinates, organizes and follows up the work of the Commission.

#### 21. Ans: B

Statement 1 is correct:

Rare earth comprises 17 elements and are classified as light RE elements (LREE) and heavy RE elements (HREE).

Statement 2 is not correct:

Some REs are available in India such as lanthanum, cerium, neodymium, praseodymium and samarium, while others such as dysprosium, terbium, europium that are classified as HREE are not available in Indian deposits in extractable quantities.

Production of Monazite the primary source of rare earth mineral in India is around 4000 MT per annum. Though IREL(India) Limited, formerly India Rare Earths Limited has installed capacity to process about 10,000 MT of rare earth bearing mineral

Statement 3 is correct:

Currently, there is an overwhelming dependence on countries such as China for HREE, which is one of the leading producers of RE with an estimated 70 per cent of the global production.

#### 22. Ans: B

Mahadayi River originates in the Bhimgad Wildlife Sanctuary in Belagavi district of Karnataka and flows through the states of Karnataka, Maharashtra, and Goa before draining into the Arabian Sea. Hence, statement 1 is correct and 2 is incorrect.

Salim Ali Bird Sanctuary is an estuarine mangrove habitat, which is declared as the bird sanctuary, and located on western tip of the Island of Chorao along the

Mandovi River, Goa, in India. The sanctuary is named after Dr. Salim Ali, the eminent Indian ornithologist. Hence, statement 3 is correct.

**23. Ans: D**

The Medicines Patent Pool (MPP) was indeed established in 2010 by UNITAID, a global health initiative, with the support and collaboration of the World Health Organization (WHO). The MPP was created to address the issue of access to essential medicines. Hence, statement 1 is correct.

The MPP primarily focuses on essential medicines for diseases such as HIV/AIDS, tuberculosis, hepatitis C, and other prevalent diseases that affect resource-limited settings. By focusing on these diseases, the MPP aims to improve access to life-saving medications in regions where they are most needed. Hence, statement 2 is correct.

The MPP works through collaborations with various stakeholders, including generic manufacturers, research institutions, and public health organizations. These partnerships are essential in facilitating the development, production, and distribution of generic versions of patented medicines, making them more affordable and accessible. Hence, statement 3 is correct.

The main goal of the MPP is to increase access to medicines in resource-limited settings. The MPP achieves this by engaging in pricing negotiations with patent holders and adopting strategies to reduce the cost of medicines, such as voluntary licensing agreements and technology transfers. These efforts contribute to expanding access to affordable medications. Hence, statement 4 is correct.

**24. Ans: A**

There is an array of crops — brinjal, tomato, maize, chickpea — in various stages of trials that employ transgenic technology. However, cotton remains the only transgenic crop that is being commercially cultivated in India. After a long hiatus, the GEAC, the apex technical body charged with evaluating proposals for testing genetically modified (GM) seeds, approved the environmental release of Mustard hybrid DMH-11 and its parental lines, during its 147th meeting on 18 October 2022 for seed production and testing. This is one step away from full commercial cultivation. GEAC is under the Union Environment Ministry.

**25. Ans: C**

On June 12, in a move endeavouring to manage the “overall food security and to prevent hoarding and unscrupulous speculation”, the Union Government imposed limits on stock of wheat that can be held by traders, wholesalers, retailers, big chain retailers and processors. The objective here is to stabilise the price of the essential commodity by steadying supply.

The government has also decided to offload 15 lakh tonnes of wheat from the central pool via the Open Market Sale Scheme (OMSS) to flour mills, private traders, bulk buyers, manufacturers of wheat products

through e-auction. The idea is to control retail prices of wheat. The Food Secretary also announced that the government would offload rice under OMSS to moderate its prices.

The Food Corporation of India is entrusted with the responsibility to ensure food grains are accessible at reasonable prices to the vulnerable sections of society under the Public Distribution System.

**26. Ans: A**

Indian Farmers Fertiliser Cooperative Ltd (IFFCO) recently said it has signed an agreement with California-based Kapoor Enterprises Inc for export of nano liquid urea to the US.

**About Nano Urea:**

- It is a nanotechnology-based revolutionary Agri-input that provides nitrogen to plants.
- It is 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).

**Features:**

- Compared to conventional urea prill, Nano Urea has a desirable particle size of about 20-50 nm and more surface area (10,000 times over 1 mm urea prill) and number of particles (55,000 nitrogen particles over 1 mm urea prill).
- It contains 4.0 % total nitrogen (w/v).

**Benefits:**

- It is produced by an energy-efficient, environment-friendly production process with less carbon footprints.
- Increased availability to crop by more than 80%, resulting in higher nutrient use efficiency.
- It is expected to improve crop productivity, soil health, and nutritional quality of produce and address the "imbalanced and excessive use" of conventional fertilizer.

**Indian Farmers Fertiliser Cooperative Limited (IFFCO):**

- It is India's largest multi-state cooperative society that is entirely owned by Indian cooperatives.
- IFFCO is primarily engaged in the production and distribution of fertilizers.
- Headquarters: New Delhi, India.
- Hence only statement 1 is correct.

**27. Ans: B**

The concept of mandatory minimum sentencing refers to a sentence which must be imposed without leaving any discretion to the court. It means a quantum of punishment which cannot be reduced below the period fixed. Essentially, this predetermines the minimum punishment or sentence for certain offenses which are considered to be more serious than others, with a view to ensure justice and not let the perpetrator of such an offense go unpunished.

No matter what the unique, individual circumstances

of the offender or the offense might be, the court must mandatorily award this minimum period of sentencing for the offenses which prescribe it. A concept that comes primarily from the Canadian and American legal systems; in India, such sentences are prescribed for all sexual offenses under the Prevention of Children from Sexual Offences (POCSO) Act except the offense of sexual harassment. When the legislature has prescribed a minimum sentence without discretion, the same cannot be reduced by the courts.

**28. Ans: C**

A current account surplus means that a country has more exports and incoming payments than imports and outgoing payments to other countries. It is generally deemed a positive because the current account surplus adds to a country's reserves.

**29. Ans: C**

- The United Nations Development Programme (UNDP) and the Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM) have collaborated to enhance the empowerment of women entrepreneurs in India. Hence, statement 1 is correct.
- The project will cover eight cities in the initial phase and will span over three years, with the possibility of extension beyond 2025. Hence, statement 2 is correct.
- The project is being focused on the care economy, digital economy, electric mobility, waste management, food packaging, and others as part of this collaboration. Hence, statement 3 is correct.

**30. Ans: B**

"Licensing Framework and Regulatory Mechanism for Submarine Cable Landing in India" has been released by the Telecom Regulatory Authority of India (TRAI). Hence, statement 1 is not correct.

Cable Landing Station (CLS) 'point of presence' needs to allow lawful interception and meet the requisite security drill. Hence, statement 2 is correct.

TRAI has recommended the inclusion of a section in the Indian Telecommunication Bill, 2022, concerning "Submarine cable" and "Cable Landing Station. Hence, statement 3 is correct.

**31. Ans: B**

Statement 1 is incorrect. The G20 Common Framework provides a platform for creditor countries, including both official bilateral creditors and private sector creditors, to coordinate and collaborate on debt relief efforts. Its primary objective is to facilitate the implementation of timely, orderly, and sustainable debt treatments for eligible countries. Statement 2 is correct. The International Monetary Fund (IMF) and the World Bank play crucial roles in supporting the implementation of the G20 Common Framework.

**32. Ans: C**

Statements 1 and 3 are correct. Extreme heat is defined

from a baseline of the average temperature in any one location, which varies widely across the world. Carbon dioxide, methane and nitrous oxide play a crucial role in stopping heat from being reflected or lost from our atmosphere. Statement 2 is incorrect. Warm air holds more moisture, which produces stronger and more frequent storms.

**33. Ans: D**

Statements 1, 2 and 3 are correct. India has emerged as a key advocate for the Global South, articulating the concerns and aspirations of developing nations on the international stage. There's also increased cultural respect for India globally due to initiatives like the International Day of Yoga, the global popularity of Ayurveda, and other aspects of Indian culture. India is recognised as a collaborator in the global economy. This is reflected in increased Foreign Direct Investment, rising exports, and collaboration in high-tech industries like semiconductors.

**34. Ans: A**

Statement 1 is correct. Submersibles are small, limited-range watercraft designed for a set mission, that are built with characteristics that allow them to operate in a specific environment. These vessels are typically able to be fully submerged into water and cruise using their own power supply and air renewal system. Statement 2 is incorrect. Submarines have enough power to leave port and come back to port under its own power while submersibles have very limited power reserves so it needs a mother ship that can launch it and recover it.

**35. Ans: A**

Statements 1 and 2 are correct. Betelgeuse star is a red supergiant star with a distinctive orange-red hue. It can be easily spotted in the constellation Orion. Statement 3 is incorrect. In Indian astronomy, Betelgeuse is called 'Thiruvathirai' or 'Ardra'.

**36. Ans: B**

ICIMOD is an intergovernmental knowledge and learning centre It develops and shares research, information, and innovations to empower people in the eight regional member countries of the Hindu Kush Himalayan (HKH) like – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. ICIMOD It is based at Kathmandu, Nepal. 200 glacier lakes across Hindu Kush Himalayan are deemed dangerous, and the region could see a significant spike in glacial lake outburst floods by the end of the century.

**37. Ans: C**

The Global Stocktake is a periodic review of progress on climate action. It is a Party-driven process conducted in a transparent manner and with the participation of non-Party stakeholders. It enables countries and other stakeholders to see where they're collectively making progress toward meeting the goals of the Paris Agreement. It also decides ways and means to enhance global action to bridge the adequacy gap. As a mandate



of Paris Agreement, it must be conducted every five years starting from 2023.

Mitigation Work Programme (MWP) is a part of Global Stocktake which was set up at COP26 in Glasgow in 2021.

**38. Ans: A**

C+1 Strategy also known as China Plus One or just Plus One is a Strategy followed by companies to avoid investing only in China and diversify business into other countries.

For the past few decades western countries investing heavily in China have led to overconcentration of their business interests in China.

**39. Ans: B**

Scientists at the Gujarat Energy Research and Management Institute (GERMI) have developed a groundbreaking paper-based supercapacitor using seaweed. The paper-based supercapacitor has high tensile strength, a fast charging/discharging cycle, high power density and a longer lifecycle. It can fully charge a device within 10 seconds. Hence, statements 1 and 3 are correct.

A supercapacitor can quickly deliver and store energy because there is no chemical reaction involved. It store energy electrostatically. Hence statement 2 is incorrect.

**40. Ans: C**

Three temporary camps with adequate security arrangements were recently set up for devotees and tourists coming to the Kamakhya temple for the Ambubachi Mela.

**About Ambubachi Mela:**

- **Where:** It is an annual Hindu fair held at the historic Kamakhya Temple.
- **When:** It is celebrated during the monsoon season that happens to fall during the Assamese month Ahaar, around the middle of June.
- **Occasion:** It is the celebration of the yearly menstruation course of goddess Maa Kamakhya.
- **Other names:** This mela is also known as Ameti or Tantric fertility festival since it is closely associated with Tantric Shakti cult prevalent in eastern parts of India.
- Hence both statements are correct.

**41. Ans: C**

New Space India Ltd (NSIL) is a Central Public Sector Enterprise of the Government of India.

It was established in 2019 under the administrative control of the Department of Space. Hence, statement 1 is correct.

NSIL is the commercial arm of Indian Space Research Organisation (ISRO) with the primary responsibility of enabling Indian industries to take up high technology space related activities.

NSIL is headquartered in Bengaluru. Hence, statement 2 is correct.

**42. Ans: B**

Aditya L1 shall be the first space based Indian mission

to study the Sun. The spacecraft shall be placed in a halo orbit around the Lagrange point 1 (L1) of the Sun-Earth system, which is about 1.5 million km from the Earth. Hence, statement 1 is correct.

A satellite placed in the halo orbit around the L1 point has the major advantage of continuously viewing the Sun without any occultation/eclipses.

The spacecraft carries seven payloads to observe the photosphere, chromosphere and the outermost layers of the Sun (the corona) using electromagnetic and particle and magnetic field detectors.

The inner layers are the Core, Radiative Zone and Convection Zone. The outer layers are the Photosphere, the Chromosphere, the Transition Region and the Corona. Hence, statement 2 is correct.

The Solar Ultraviolet Imaging Telescope (SUIT), developed by Pune's Inter-University Center for Astronomy and Astrophysics (IUCAA), has been recently delivered to the Indian Space Research Organisation (ISRO). Hence, statement 3 is not correct.

This unique space telescope will be integrated with ISRO's ADITYA-L1 mission, set to launch in mid-August 2023.

**43. Ans: B**

According to the World Bank's latest Migration and Development Brief, India, which saw a record high of USD 111 billion in remittances in 2022, is expected to experience minimal growth of just 0.2% in remittance inflows in 2023.

The top five recipient countries for remittances in 2022 were India, Mexico, China, the Philippines, and Pakistan. Hence, statement 1 is correct.

Approximately 36% of India's remittances originate from high-skilled Indian migrants in three high-income destinations: the US, United Kingdom, and Singapore. Hence, statement 2 is not correct.

The post-pandemic recovery led to a tight labor market in these regions, resulting in wage hikes that boosted remittances.

**44. Ans: B**

Statements 1 and 3 are incorrect. Orchids are natural gauges of air quality because they don't grow in polluted air. The entire orchid family is listed under appendix II of CITES and hence any trade of wild orchid is banned globally. Statement 2 is correct. The highest number of orchid species is recorded from Arunachal Pradesh.

**45. Answer: B**

Statement 1 is incorrect. The Mesolithic period also called the Middle Stone Age existed between the Paleolithic (Old Stone Age), and the Neolithic (New Stone Age). Statements 2 and 3 are correct. Mesolithic people made bow and arrow for hunting. The Mesolithic people also used non-microlithic tools made of flakes and blades.

**46. Ans: C**

Statements 1 and 3 are correct. LEED (Leadership in Energy and Environmental Design) certification has been developed by United States Green Building Council (USGBC). LEED Zero recognises projects that have reached a net-zero or net-positive status in the categories of carbon, energy, water, or waste. Statement 2 is incorrect. LEED Certification is the world's most widely used green building rating system in the world.

**47. Ans: A**

Brahmani Natural Arch is located at Kanika range of Sundargarh forest division of Odisha.

**48. Ans: B**

Statement 1 is incorrect. National Working Plan Code is the main instrument through which the scientific management of Forests is being achieved in India. The code was first adopted in 2004 with a subsequent amendment in 2014. Statement 2 is correct. The 2023 code has prescribed state forest departments to engage in continuous data collection and its updation in a centralized database.

**49. Ans: B**

Statement 1 and 2 are correct. Earth's geographic north and south poles are where its axis intersects the surface. These poles are not fixed. The poles fluctuate due to variations in the Earth's mass distribution. Statement 3 is incorrect. The movement of water around the world influences the Earth's rotation.

**50. Ans: B**

Statement 1 and 3 are correct. The Earth's axis is inclined approximately 23.5 degrees relative to its orbital plane around the sun. This tilt remains constant throughout the year, causing changing seasons as Earth orbits the sun. The summer solstice leads to an increase in the process of photosynthesis because there is an increase in solar energy on the day since the Sun is directly overhead. Statement 2 is incorrect. The summer solstice is the time when the sun is directly above the Tropic of Cancer.

**51. Ans: D**

Statement 1 is correct:

Gandhi Peace Prize is an annual award instituted by Government of India in 1995, on the occasion of 125th Birth Anniversary of Mahatma Gandhi as a tribute to the ideals espoused by Mahatma Gandhi.

Statement 2 is correct:

The award is open to all persons regardless of nationality, race, language, caste, creed or gender.

The award carries an amount of Rs. 1 crore, a citation, a plaque and an exquisite traditional handicraft/handloom item.

Statement 3 is correct:

The Jury headed by the Prime Minister Shri Narendra Modi, after due deliberations on 18th June, 2023 unanimously decided to select Gita Press, Gorakhpur

as the recipient of the Gandhi Peace Prize for the year 2021, in recognition of its outstanding contribution towards social, economic and political transformation through non-violent and other Gandhian methods.

**52. Ans: D**

What is heat wave? Qualitatively, heat wave is a condition of air temperature which becomes fatal to human body when exposed. Quantitatively, it is defined based on the temperature thresholds over a region in terms of actual temperature or its departure from normal.

**What is criterion for declaring heat wave?**

Heat wave is considered if maximum temperature of a station reaches at least 40 degree C or more for Plains and at least 30 degree C or more for Hilly regions.

**a) Based on Departure from Normal Heat Wave:**

Departure from normal is 4.5 degree C to 6.4 degree C  
Severe Heat Wave: Departure from normal is >6.4 degree C

**b) Based on Actual Maximum Temperature Heat Wave:**

When actual maximum temperature  $\geq 45$  degree C  
Severe Heat Wave: When actual maximum temperature  $\geq 47$  degree C

If above criteria met at least in 2 stations in a Meteorological sub-division for at least two consecutive days and it declared on the second day

**What is a criterion for describing Heat Wave for coastal stations?**

When maximum temperature departure is 4.5 degree C or more from normal, Heat Wave may be described provided actual maximum temperature is 37 degree C or more.

**53. Ans: C**

In humans, in addition to the 22 pairs of chromosomes in each, we have a pair of sex chromosomes called X and Y. Sex as a specification is determined by these sex chromosomes. They carry sex-determining genes. All biological males have X and Y chromosomes and all biological females have two X chromosomes. The 'sex-determining region Y' on the Y chromosome determines the biological male sex.

It is also well known that men lose the Y chromosome with age and that this is associated with a higher frequency of cancers, Alzheimer's disease, and a shorter lifespan. The human Y chromosome is about one-third as big as the X chromosome.

**54. Ans: B**

In Direct seeding of rice (DSR) method, Paddy here is sown directly in the field without any nursery preparation, puddling or flooding. In transplanting, the flooded fields are basically deny oxygen to the weed seeds in the soil, preventing their germination. Water, thus, acts as a natural herbicide. In DSR, water is replaced with chemical herbicides. Hence, statement 1 is correct.



There is no nursery preparation or transplantation involved in this method. Hence, statement 2 is incorrect.

In this water is replaced by real chemical herbicides and farmers have to only level their land and give one pre-sowing irrigation. DSR is effective against weeds and saves more water compared to transplanting paddy cultivation method. Hence, statement 3 is correct.

**55. Ans: A**

It is located in Chanakyapuri in Delhi. It was built in 1325 by Sultan Firoz Shah Tughlaq and was used as a hunting lodge for a long time. It later became the residence of the descendants of the Nawab of Awadh. Hence, statement 1 is incorrect.

It came to be known as 'Wilayat Mahal' after Begum Wilayat Mahal of Awadh who claimed that she was a member of the royal family of Oudh. She was given the palace by the government in 1985. The architectural style of Malcha Mahal is primarily influenced by the Tughlaq dynasty, which was known for its unique blend of Islamic and Indian architectural elements. Hence, statement 2 is correct.

The monument is not ASI-protected and, therefore, no attention was paid to it in all these years in order to conserve it. Recently, Malcha Mahal area is set to be beautified through the planting of various layers of flowering trees. Hence, statement 3 is incorrect.

**56. Ans: A**

The chromosphere is an irregular layer situated between the bright solar surface and the extremely hot corona. The chromosphere is a highly active layer which plays a crucial role in transferring energy from corona to solar surface. Chromosphere transfers energy (specifically non-thermal energy) that heats the corona and fuels the solar wind, which extends outward into the surrounding regions of the solar atmosphere. Bright grains are observed in solar chromosphere. Grains are acoustic shock waves which are responsible for heating events in chromosphere.

**57. Ans: C**

- The recent US Federal Reserve policy meeting, keeping the policy rate unchanged at 5.25% but signaling two rate hikes to reach 6% by end-2023, has sparked speculation on India's interest rates and markets.
- The Fed's policy affects the Indian markets through various channels such as:
- **Exchange Rate Channel:** The Fed's rate hikes tend to strengthen the US dollar against other currencies, including the Indian rupee.
- A weaker rupee also increases the debt servicing costs for Indian borrowers who have taken loans in foreign currency.
- **Capital Flow Channel:** The Fed's rate hikes also reduce the interest rate differential between the US and India, which makes India less attractive for foreign investors who seek higher returns. Hence, statement 1 is not correct.

- This could lead to capital outflows from India's equity and debt markets, which could lower asset prices and increase volatility. Hence, statement 2 is correct.
- Capital outflows could also reduce India's foreign exchange reserves and create liquidity crunches in domestic markets.
- **Inflation Channel:** The Fed's rate hikes could also affect India's inflation through two ways.
- First, a weaker rupee could increase the imported inflation for India, as it raises the cost of imported goods such as oil, gold and electronics. Hence, statement 3 is correct.
- Second, higher global commodity prices due to strong US demand could also push up India's domestic inflation, as it affects the input costs for various sectors such as agriculture, manufacturing and services.

**58. Ans: B**

**Pradhan Mantri Kisan Samman Nidhi (PM-KISAN):**

**About:**

It was launched on 1 Nov 2018 to supplement the financial needs of land holding farmers.

**Financial Benefits:**

- The financial benefit of Rs 6000/- per year in three equal installments, every four months is transferred into the bank accounts of farmers' families across the country through Direct Benefit Transfer (DBT) mode. Hence, statement 1 is correct.

**Scope of the Scheme:**

- The scheme was initially meant for Small and Marginal Farmers (SMFs) having landholding upto 2 hectares but the scope of the scheme was extended to cover all landholding farmers. Hence, statement 3 is not correct.

**Funding and Implementation:**

- It is a Central Sector Scheme with 100% funding from the Government of India. Hence, statement 2 is correct.
- It is being implemented by the Ministry of Agriculture and Farmers Welfare.

**Objectives:**

- To supplement the financial needs of the Small and Marginal Farmers in procuring various inputs to ensure proper crop health and appropriate yields, commensurate with the anticipated farm income at the end of each crop cycle.
- To protect them from falling in the clutches of moneylenders for meeting such expenses and ensure their continuance in the farming activities.

**59. Ans: C**

**Brain Ventricles:**

**About:**

- Brain ventricles are cavities within the brain that produce and store Cerebrospinal Fluid (CSF), which surrounds the brain and spinal cord, cushioning them and protecting them from trauma. Hence, statement 1 is correct.

- They are also responsible for removing waste and delivering nutrients to your brain. Hence, statement 2 is correct.
- There are Four Brain Ventricles:
- The first and second ventricles are lateral ventricles. These C-shaped structures are located on each side of the cerebral cortex, the wrinkly outer layer of Brain.
- The third ventricle is a narrow, funnel-shaped structure situated between the right and left thalamus, just above your brain stem.
- The fourth ventricle is a diamond-shaped structure that runs alongside the brain stem.
- It has four openings through which cerebrospinal fluid drains into an area surrounding the brain (subarachnoid space) and the central canal of the spinal cord.

**Functions:**

- **CSF Circulation:** The ventricles, specifically the lateral ventricles, are interconnected with the third ventricle in the midline of the brain. CSF flows through these ventricles and circulates around the brain and spinal cord, helping to remove waste products and regulate the extracellular environment.
- **Maintenance of Intracranial Pressure:** The ventricles help maintain the appropriate pressure within the brain. Any disruption in the production, circulation, or absorption of CSF can lead to an imbalance in intracranial pressure, which may result in conditions like hydrocephalus. Hence, statement 3 is correct.

**60. Ans: C**

Statements 1, 2 and 3 are correct. Impact bonds can be used for all sorts of purposes and in any sector, from social projects that help to reduce inequality or improve care for the elderly to projects that enhance public transport or sustainable energy projects. Skill Impact Bond (SIB) is India's first development impact bond for skilling and employment. Social Impact Bonds are entirely dependent upon the success of the social outcome. Statement 4 is incorrect. Unlike normal bonds, social impact bonds are not affected by variables such as interest rate risk, reinvestment risk, or market risk.

**61. Ans: C**

Statement 1 and 2 are correct. Dugdh Sanakalan Sathi Mobile App will help in online monitoring of daily milk poured at Milk Cooperative Societies. The app has been developed by Rajasthan Electronics & Instruments Limited (REIL), Jaipur.

**62. Ans: B**

Statement 1 is incorrect. The framework has been signed between Niti Aayog and the United Nations. Statements 2 and 3 are correct. The framework is built upon four pillars—People, Prosperity, Planet, and Participation. The implementation, monitoring

and reporting of the framework will be co-led by the Government of India and the United Nations, through a Joint Steering Committee.

**63. Ans: C**

Statements 1 and 2 are correct. Cratons are pieces of ancient continents that formed several billions of years ago. Greenstones are rock assemblages that are primarily composed of sub-marine volcanic rocks with minor sedimentary rocks.

**64. Ans: C**

Statements 1 and 2 are correct. A theatre command is a military structure wherein all the assets of the army, air force and navy in a particular theatre of war are under the operational control of a three-star general. These unified combat commands are organized either on a geographical basis or on a functional basis. Source:

**65. Ans: B**

Statement 1 is incorrect. Synthetic embryos are embryos, which are created without fertilization. These are also known as artificial embryos. Statements 2 and 3 are correct. Synthetic embryos do not require an egg or sperm cell to facilitate their creation. These embryos rely on self-assembling stem cell structures to mimic the natural process of early human development.

**66. Ans: B**

Hiroshima AI Process (HAP) is an effort by G7 to determine a way forward to regulate Artificial Intelligence (AI). HAP will work in cooperation with the OECD and Global Partnership on Artificial Intelligence (GPAI). The initiative recognizes the need to immediately take stock of the opportunities and challenges of generative AI.

**67. Ans: B**

Statement 1 is incorrect. Neurotechnology encompasses any method or electronic device which interfaces with the nervous system to monitor or modulate neural activity. Statement 2 is correct. Neuro technologies constitute powerful research tools to advance fundamental neuroscience knowledge.

**68. Ans: B**

Statement 1 is incorrect. Sanshodhak is the fourth of four ships of the Survey Vessels (Large) (SVL) Project being built by L&T/ Garden Reach Shipbuilders & Engineers (GRSE) for the Indian Navy. Statement 2 is correct. Sanshodhak Ship would be deployed for collecting oceanographic and geophysical data for defence as well as civil applications.

**69. Ans: C**

Modern Slavery refers to situations of exploitation that a person cannot refuse or leave because of threats, violence, coercion, deception, or abuses of power. 50 million people are living in conditions of modern slavery — a 25% rise over the last five years, says a new report. According to it, the Group of 20 nations are contributing to this increase, as their trade operations and global supply chains allow for human rights abuses.

Among the G20 nations, India tops the list with 11 million people working as forced labourers, followed by China, Russia, Indonesia, Turkey and the U.S.

**70. Ans: B**

Recently, the Union Cabinet chaired by the Indian Prime Minister has approved the City Investments to Innovate, Integrate and Sustain 2.0 (CITIIS 2.0) programme.

It is a program conceived by the Ministry of Housing and Urban Affairs (MoHUA) in partnership with the French Development Agency (AFD), Kreditanstalt für Wiederaufbau (KfW), the European Union (EU), and National Institute of Urban Affairs (NIUA).

The program will run for four years, i.e., from 2023 to 2027.

**Objective:** The program envisages supporting competitively selected projects promoting a circular economy with a focus on integrated waste management at the city level, climate-oriented reform actions at the State level, and institutional strengthening and knowledge dissemination at the National level.

**Funding:** The funding for this program would include a loan from AFD and KfW and a technical assistance grant of Rs.106 cr from the EU.

**It has three major components:**

**Component 1:** Financial and technical support for developing projects focused on building climate resilience, adaptation and mitigation in up to 18 smart cities through a selection of competitively selected projects promoting a circular economy with a focus on integrated waste management.

**Component 2:** All States and UTs will be eligible for support on-demand basis.

The States will be provided support to (a) set up/strengthen their existing State climate centres/ Climate cells/ equivalents (b) create State and city-level Climate Data Observatories (c) facilitate climate-data-driven planning, develop climate action plans and (d) build capacities of municipal functionaries. To achieve these objectives, the PMU at NIUA will coordinate the provision of technical assistance and strategic support to State Governments.

**Component 3:** Interventions at all three levels; Centre, State and City to further climate governance in urban India through institutional strengthening, knowledge dissemination, partnerships, building capacity, research and development to support scale-up across all States and Cities.

Hence only statement 2 is correct

**71. Ans: C**

Recently, the Union Ministry of Electronics & IT launched the ERSO Pilot initiative to validate certain transformational policy and process changes to make India the Repair Capital of the World.

It aims to promote India as a hub for repairing electronic

goods and to assess the feasibility and potential of capturing 20% of the global repair service market within five years.

The pilot is being held in Bengaluru and will be run for three months.

India's e-waste policy will be modified to enable repair companies to domestically recycle 5% of imported goods by weight on a trial basis.

The repaired goods will not be permitted to be sold in the domestic market.

New provisions will be made to allow their exportation to regions other than their country of origin.

Nodal Ministry: Ministry of Electronics & IT.

Hence both statements are correct.

**72. Ans: D**

The Union government proposes to sell up to 3% stake in state-owned coal India through an offer for sale (OFS).

**About Offer For Sale (OFS):**

- What is it? OFS is a simpler method of share sale through the exchange platform for listed companies.
- The OFS method was brought in by the Securities and Exchange Board of India (SEBI) in 2012 as a simpler one to aid promoters of listed firms to dilute their stake 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.

**Features:**

- 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.
- Anyone can bid for these shares, be it foreign



institutional investors, retail investors or companies. Hence both statements are not correct.

**73. Ans: B**

Statement 1 is incorrect. Gilgit Manuscripts have been discovered in 1931 in three instalments. Statement 2 and 3 are correct. Gilgit Manuscripts include both canonical and non-canonical Buddhist works. They are used for the study of the history and development of Buddhist thought and writing is invaluable.

**74. Ans: B**

Statement 1 is incorrect. The objective of the conclave is to foster collaboration among civil services training institutes and bolster the training infrastructure for civil servants across the country. Statements 2 is correct. The Conclave is being hosted by the Capacity Building Commission.

**75. Ans: B**

Statements 1 and 2 are correct. PLI scheme is a financial initiative launched by the Indian government to boost domestic manufacturing and make it globally competitive. The scheme offers subsidies based on additional investments, incremental sales, and value additions. Statement 3 is incorrect. Under the PLI scheme, sectors such as electronics, automobiles, pharmaceuticals, white goods, and textiles have witnessed significant growth in exports.

**76. Ans: A**

Statement 1 is correct. The recycling capacity in India is reported to be only half of the total plastic waste generated. Statement 2 is incorrect. The Central Pollution Control Board launched the SUPPCB app, which allows citizens to report the use of single-use plastics.

**77. Ans: A**

Statements 1 and 2 are correct. Adolescent health is a significant indicator of women's labour force participation in India in the long term. Undernourished adolescent girls are at a higher risk of chronic diseases and pregnancy complications. Statement 3 is incorrect. NFHS-4 reported over 41.9% of school-going girls as underweight.

**78. Ans: A**

Skill Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP) is a programme of the Ministry of Skill Development with loan assistance from the World Bank. It aims to improve short term skill training through strengthening institutions, bringing in better market connectivity and inclusion of marginalised sections of the society. SANKALP was launched on January 2018 and has a tenure till March 2023.

**79. Ans: B**

Recently Reserve Bank of India released the draft Master Directions on Cyber Resilience and Digital Payment Security Controls for Payment System Operators. Payment System Operator (PSO) A payment system operator means a legal entity responsible for operating a payment system. The PSO provides services by

operating on certain models. They largely outsource their payment and settlement-related activities to various other entities.

**Examples of PSOs include Google Pay, Amazon Pay, Paytm etc. PSOs in India also includes**

- Clearing Corporation of India
- National Payments Corporation of India
- Cards Payment Networks
- Cross border Money Transfer
- ATM networks
- Prepaid Payment Instruments
- White Label ATM Operators Instant Money Transfer
- Trade Receivables Discounting System
- Bharat Bill Payment System

According to the Payment and Settlement Systems Act 2007, Payments Regulatory Board, constituted by the RBI, regulates and supervises the payment systems.

**80. Ans: C**

Recently Indian-origin scientist Joyeeta Gupta was awarded the Spinoza Prize.

The prize is named after Baruch Spinoza (1632-1677) and is awarded annually since 1995. Baruch Spinoza was an internationally renowned Dutch scientist and a clear example of freedom in research. Spinoza prize also called as 'Dutch Nobel Prize' is the highest award in Dutch academia. It is awarded every year to researchers working in the Netherlands who according to international standards belong to the absolutely best researchers worldwide.

**81. Ans: A**

- Recently 'Agni Prime' ballistic missile was successfully flight-tested by DRDO.
- The Agni P missile is developed by India's DRDO. It is a two-stage ballistic missile that uses solid propellant and is stored in a canister, which means that it can be stored in a canister and transported by road or rail. It has a range of 2,000 kilometres and can carry a nuclear warhead.
- It is capable of manoeuvring at the point of entry into the earth's atmosphere, making it more difficult to intercept. It uses advanced ring-laser gyroscopes which are more accurate for detection of location and trajectory tracking of the missile.

**82. Ans: D**

Government of India follows the following criteria for identification of PVTGs.

- Pre-agricultural level of technology
- Low level of literacy
- Economic backwardness
- A declining or stagnant population.
- Accordingly, 75 PTVGs have been identified in the country.

**83. Ans: A**

The recent clashes regarding the settlement of Meities in the hilly areas has spotlighted Article 371C. Article 371 C of the Indian Constitution pertains to the

Special provision for the State of Manipur. Hence, statement 1 is correct.

Article 371 C which is included in Part XXI was incorporated through the 27th Amendment Act of 1971. Hence, statement 2 is incorrect.

The President is empowered to establish a committee in the Manipur Legislative Assembly comprising members elected from the Hill Areas of the State. The President can also assign the Governor with the specific responsibility of ensuring the effective functioning of the aforementioned committee. The Governor is required to submit an annual report to the President concerning the administration of the Hill Areas. Hence, statement 3 is incorrect.

**84. Ans: B**

The Insurance Regulatory and Development Authority of India (IRDAI), as part of its Vision Insurance for all by 2047, has allotted states and union territories to every insurer to increase insurance penetration in India. In the emerging insurance markets, India ranks as the fifth largest life insurance market, growing at 32-34%. BimaVahak is a crucial part of IRDAI's goal of achieving "Insurance for all by 2047." It will serve as a last-mile connect for insurers, reaching out to every Gram Panchayat (local self-governance institution in India). It is a women-centric workforce operating at the Gram Sabha level. They will educate and convince women about the benefits of comprehensive insurance, particularly Bima Vistar. By addressing concerns and emphasizing advantages, Bima Vaahaks empower women and enhance their financial security. Hence, statement 1 and 2 are incorrect.

Bima Vistar is a comprehensive bundled policy that covers life, health, property, and accidents. It provides defined benefits for each risk category, ensuring quick claim payouts without surveyors. Hence, statement 3 is correct.

As per the IRDAI, insurance penetration in India increased from 3.76% in 2019-20 to 4.20% in 2020-21, registering a growth of 11.70%.

**85. Ans: C**

The World Bank is an international financial institution established in 1944 as a result of Bretton Woods Conference. It consists of the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA). The Bank aims to reduce poverty and promote shared prosperity. It provides financial assistance, policy advice, and technical expertise to developing countries. The World Bank focuses on aiding developing nations, whereas the International Monetary Fund (IMF) has a primary goal of stabilizing the global monetary system and overseeing global currencies. Recently, Indian-origin Mr. Ajay Banga has taken charge as President of World Bank. Some of the major reports published by World Bank are; World Development

Report, Ease of Doing Business, Remittance Report, Human Capital Index etc. Global Financial Stability Report is published by IMF whereas World Social Protection Report is published by ILO. Hence, option (c) is correct.

**86. Ans: B**

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.

**87. Ans: B**

Section 124A was inserted in 1870 by an amendment introduced by Sir James Stephen when it felt the need for a specific section to deal with the offence. Today the Sedition is a crime under Section 124A of the Indian Penal Code (IPC). However, comments without exciting or attempting to excite hatred, contempt or disaffection, will not constitute an offence under this section.

It is a non-bailable offence. Punishment under Section 124A ranges from imprisonment up to three years to a life term, to which a fine may be added. A person charged under this law is barred from a government job.

**88. Ans: B**

Protein Nano-computers are the first protein-based nano-computing agent that functions as a circuit has been created by Penn State researchers. Traditional

synthetic biology approach rely on the expression or suppression of proteins that produce a desired action within a cell. Protein-based devices or Nano-computing agents respond directly to stimuli (inputs) and then produce a desired action (outputs). In this case, the target protein responds to light and a drug called rapamycin by adjusting its orientation, or position in space.

**89. Ans: A**

Statement 1 is correct: The Commission of Railway Safety is a statutory body under the ministry of civil aviation.

Statement 3 is not correct: It is headed by the Chief Commissioner of Railway Safety.

Statement 2 is correct: Under the Indian Railway Board Act, 1905, the Railway Board was vested with powers and functions of the Central Government under various sections of the Railway Act and was authorised to make General Rules for the operation of Railways.

The Railway Board is thus the Safety Controlling Authority for the working and operation of Government and Company managed railways.

**90. Ans: A**

A sonic boom rattled US's Washington and Virginia recently after two F-16 fighter jets chased an "unresponsive aircraft" through the sky.

**About Sonic Boom:**

- A sonic boom is a thunderous noise caused by an object, like an aircraft, moving faster than the speed of sound.
- How is it formed?
- As the object zooms through the sky, the air molecules around it are pushed aside with tremendous force, generating shock waves along its flight path.
- The release of pressure, following the shock waves' buildup, is heard as the sonic boom.
- Sonic booms create huge amounts of sound energy.
- The intensity of the sonic boom is determined not only by the distance between the craft and the ground but also by the size and shape of the aircraft, the types of maneuvers that it makes, and the atmospheric pressure, temperature, and winds.
- Generally, a larger aircraft will cause stronger shock waves, and therefore, a louder sonic boom.
- If the aircraft is especially long, double sonic booms might be detected, one emanating from the leading edge of the plane and one from the trailing edge.
- Sonic booms can shatter glass, but there is generally little risk for people on the ground.

Hence only statement 1 is correct.

**91. Ans: C**

Researchers have developed a smart bandage which can help treat chronic wounds.

What it is? It is a soft stretchable polymer that helps the bandage maintain contact with and stick to the skin.

- The bioelectronics system consists of biosensors that monitor biomarkers in the wound exudate.
- Data collected by the bandage is passed to a flexible printed circuit board, which relays it wirelessly to a smartphone or tablet for review by a physician.
- A pair of electrodes control drug release from a hydrogel layer as well as stimulate the wound to encourage tissue regrowth.
- Biosensors determine the wound status by tracking the chemical composition of the exudates, which changes as the wound heals.
- Additional sensors monitor the pH and temperature for real-time information about the infection and inflammation.
- A pair of electrodes, the same electrodes that stimulate the tissue, control the release of drugs from a hydrogel layer.
- The wireless nature of the device sidesteps the problems of existing electrical stimulation devices, which usually require bulky equipment and wired connections, limiting their clinical use.

Hence both statements are correct.

**92. Ans: B**

Recently, several farmers raised the concern over "foot rot" disease in the saplings of the Basmati variety of paddy in the nurseries.

- It is also known as Bakanae Disease.
- It is a soil and seed-borne deadly fungus which is seen only in the Basmati variety of paddy.
- It is caused by 'Fusarium verticillioides' fungi.
- The infected saplings turn pale yellow and become elongated and later, the saplings start drying and usually die.
- Symptoms sometimes appear after transplantation and the infected plants first grow way taller than the normal plants and die after a few days.

Hence only statement 2 is correct.

**93. Ans: A**

Statement 1 and 2 are correct. The Higgs boson is a subatomic particle that is integral to our understanding of mass. The strength of a particle's interaction with the Higgs boson determines its mass. Statement 3 is incorrect. The spin of Higgs bosons is zero.

**94. Ans: D**

Statements 1 and 2 are incorrect. Amrit Dharohar scheme aims to ensure the conservation of the existing Ramsar sites through public participation. The scheme was launched by the PM recently.

**95. Ans: A**

Statement 1 and 2 are correct. India accounts for about 3% of South Asia's mangroves. Mangroves are unique, natural eco-system having very high biological productivity and carbon sequestration potential, besides working as a bio-shield. Statement 3 is incorrect. MISHTI scheme aims to comprehensively explore the possible area for the development of mangroves covering nearly 540 sq km, spreading across 11 states



and two union territories over five years, starting from FY 2023-24.

**96. Ans: D**

The Nyaya Vikas Portal is an online platform created for monitoring the implementation of the Centrally Sponsored Scheme (CSS) for the development of infrastructure facilities for district and subordinate judiciary. Hence, statement 1 is not correct.

It allows stakeholders to access information related to funding, documentation, project monitoring, and approval. Hence, statement 2 is not correct.

Hence, option (d) is correct.

**Additional Information**

**Fund Sharing pattern**

The funds sharing pattern for the scheme is 60:40 between the Center and states (excluding North Eastern and Himalayan States). For North Eastern and Himalayan States, the pattern is 90:10, while Union Territories receive 100% funding.

**97. Ans: B**

Joint Child Malnutrition Estimates (JME) 202 is jointly released by UNICEF, WHO and World Bank. In India, Prevalence of overweight children increased in India in 2022 compared to 2012. India continues to show a reduction in stunted children under 5 years in 2022 compared to 2012. In India 2/3rds of children at 12 or 24 months had wasting at birth or at one month of age. It is caused by maternal malnutrition.

**98. Ans: A**

Black-winged stilt species do not normally occur in forests. It is found in wetlands with open shallow water, often in brackish habitats. The black-winged stilt species are partially migrant birds.

IUCN status - Least Concern (LC).

The CITES status - Not Evaluated.

**99. Ans: C**

Maharashtra CM Eknath Shinde announced that his government would rename Ahmednagar as Ahilyanagar to commemorate Ahilyabai Holkar. Ahilya Bai was born in 1725 into a Marathi Hindu family to Mankoji Shinde and Sushila Shinde in the Chaundi village (present-day Ahmednagar district) of Maharashtra. Ahilyabai took control of Malwa after her husband's death in the Battle of Kumbher against the king of Bharatpur in 1754.

She moved the capital to Maheshwar, south of Indore on the Narmada River. She built hundreds of temples and Dharmashalas throughout India.

In 1780, she had the Kashi Vishwanath temple in Varanasi rebuilt, nearly a century after Mughal king Aurangzeb ordered its destruction.

**100. Ans: A**

The leaders of BRIC (Brazil, Russia, India, and China) countries met for the first time in St. Petersburg, Russia, on the margins of G8 Outreach Summit in July 2006. Shortly afterwards, in September 2006, the group was formalised as BRIC during the 1st BRIC Foreign Ministers' Meeting, which met on the sidelines of the General Debate of the UN Assembly in New York City

BRIC group was renamed as BRICS (Brazil, Russia, India, China, South Africa) after South Africa was accepted as a full member at the BRIC Foreign Ministers' meeting in New York in September 2010.

Therefore, BRICS has 5 members BRICS (Brazil, Russia, India, China, South Africa)

The SCO currently comprises eight Member States (China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan), four Observer States interested in acceding to full membership (Afghanistan, Belarus, Iran, and Mongolia).