

10 PM Current Affairs Quiz Weekly Compilation

For UPSC CSE Prelims

[2nd Week] May, 2024

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Geography

Q.1) Which one of the following processes involves introducing certain particles into clouds to stimulate rain, often used to combat drought or enhance snowfall?

- a) Cloud seeding
- b) Atmospheric pressurization
- c) Ozone modification
- d) Rain amplification

Q.2) Consider the following statements:

- 1. Solar time is calculated by measuring the earth's rotation relative to the Sun, and is variable in nature.
- 2. Currently, moon missions operate on the Coordinated Lunar Time (LTC) of the Earth.
- 3. There is no standardized time system for operations in cislunar space.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.3) Consider the following statements:

- 1. India lags behind Sri Lanka in Human Development Index (HDI).
- 2. India has a significant gender gap in labor force participation.
- 3. Household debt in India has significantly increased.

Which of the statements given above are correct?

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

Q.4) Consider the following statements:

- 1. Titanium is the biggest industrial contributor to global carbon emissions.
- 2. Titanium is not found in its pure metallic form naturally.
- 3. China is the largest producer of titanium.

Which of the statement(s) given above is/are correct?

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

Q.5) Consider the following pairs:

Places/Region-----Country

- 1. Canoas-----Argentina
- 2. Darfur-----Sudan
- 3. Dar-es-Salaam-----Ethiopia
- 4. Odesa-----Ukraine

Which of the above pairs are correctly matched?

- a) 1 and 3 only
- b) 2 and 4 only
- c) 1 and 2 only
- d) 3 and 4 only

Q.6) The city closest to the Rafah border crossing is

- a) Jerusalem
- b) Al Arish
- c) Tel Aviv
- d) Hebron

Q.7) Consider the following statements:

1. Chabahar Port is located on the Gulf of Aden.
2. Chabahar Port serves as a gateway to landlocked countries in Central Asia.
3. Mumbai Port is the closest major Indian port to Chabahar Port.
4. Chabahar Port enhance India's connectivity to the International North-South Transport Corridor (INSTC) by facilitating a multimodal transport route that includes sea, road, and rail links.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) All four

Q.8) Which of the following countries border Slovakia?

- a) Germany, Austria, Poland, Ukraine, Hungary
- b) Czech Republic, Austria, Hungary, Ukraine, Poland
- c) Poland, Ukraine, Romania, Hungary, Austria
- d) Czech Republic, Germany, Poland, Ukraine, Hungary

Q.9) The Strait of Gibraltar connects:

- a) The Red Sea to the Mediterranean Sea
- b) The Atlantic Ocean to the Mediterranean Sea
- c) The Indian Ocean to the Pacific Ocean
- d) The Black Sea to the Aegean Sea

Polity

Q.10) Consider the following statements:

1. In India, the right to vote is governed by the Representation of the People Act, 1951.
2. Undertrial prisoners in India are allowed to vote in elections.
3. In India, convicts with sentences of less than two years in prison cannot contest election.
4. Prisoners held under preventive detention can vote in an election.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) All four

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Q.11) Consider the following statements:

1. Parliament has unlimited power to amend the Constitution.
2. Article 31C of the Constitution states that laws made to give effect to Articles 39(b) and (c) could not be declared void on the grounds of violating Articles 14 or Article 19 of the Indian Constitution.
3. Articles 14, 19, and 21 represents a "golden triangle" of protection against unrestricted state power.
4. Article 37 declares that Directive Principles of State Policy (DPSP) will not be "enforceable in any court".
5. Article 13 of the Indian Constitution declared that any law made in breach of a fundamental right would be valid.

How many of the statements given above are correct?

- a) Only two
- b) Only three
- c) Only four
- d) All five

Q.12) In the context of public service, which one of the following is the primary objective of the Karmayogi Competency Model, seen in the news recently?

- a) Increase the salary of public servants
- b) Standardize job roles across all departments
- c) Enhance the skills, competencies, and capabilities of public servants
- d) Reduce the workforce in public services

Q.13) Consider the following statements:

1. In Indra Sawhney Case, the Supreme Court introduced the concept of the "creamy layer" within the Other Backward Classes (OBC) category.
2. Articles 15 and 16 of the Indian Constitution allows reservation based on religion.
3. In Janhit Abhiyan Case, the Supreme Court upheld the constitutional validity of reservations based on economic criteria.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.14) Consider the following statements:

1. Free and fair elections are a part of the basic structure of the Constitution.
2. Article 324 gives the Election Commission complete authority to ensure a free and fair election.

Which of the statement(s) given above is/are correct?

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

Q.15) Consider the following statements:

1. The Election Commission of India developed the Model Code of Conduct (MCC) based on the Supreme Court decision in S. Subramaniam Balaji vs. Govt of Tamil Nadu.
2. The model code of conduct is legally enforceable.
3. Neither the Representation of the People Act nor the Conduct of Election Rules makes any provision for the model code of conduct.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.16) Consider the following statements:

1. The Election Symbols (Reservation and Allotment) Order, 1968, brought out by the Election Commission of India (ECI) makes a provision to deal with the violation of the Model Code of Conduct.
2. The Representation of People Act of 1951 declares any appeal in the name of any religion to be a corrupt practice that invalidates an election.
3. The suspension or removal of a party's recognition does not deprive it of the symbol reserved for it.

Which of the statements given above are correct?

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

Q.17) Consider the following statements:

1. The right to housing is considered part of the fundamental right to life under Article 21 of the Constitution.
2. Credit Linked Subsidy Scheme (CLSS), a component under the Pradhan Mantri Awas Yojana-Urban, focuses on slum rehabilitation.

Which of the statement(s) given above is/are correct?

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

Q.18) Consider the following statements:

1. A live-in relationship is considered an offence under the India law.
2. In India, all the laws that are applicable to married couples also applies to couples living in live-in relationship.

Which of the statement(s) given above is/are correct?

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

Q.19) Consider the following pairs:

Article-----Provisions

1. Article 22(1) -----Right to be informed of grounds of arrest.
2. Article 22(2) -----Right to consult and be defended by a legal practitioner.
3. Article 22(3) ----- Right to be produced before a magistrate within 24 hours.
4. Article 22(4) -----Exceptions for enemy aliens and those detained under preventive detention laws.

How many of the above pairs are correctly matched?

- a) Only one
- b) Only two
- c) Only three
- d) All four

Q.20) Consider the following statements regarding the internet shutdowns in India:

1. Information Technology Act, 2000 is the primary legal framework governing internet shutdowns in India.
2. In Navtej Singh Johar v. Union of India, the Supreme Court provided guidelines to regulate internet shutdowns in India.
3. India has witnessed the highest number of internet shutdowns in the world in 2023.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Acts & Policies

Q.21) The goal of the "Give It Up" campaign launched by the Indian government is to:

- Increase government revenue through additional taxes on Liquefied Petroleum Gas (LPG).
- Encourage affluent households to willingly give up their LPG subsidies.
- Mandate all households to purchase LPG at market prices.
- Provide free LPG connections to all households regardless of income.

Q.22) With reference to the Inter-Services Organisations (ISOs) (Command, Control, and Discipline) Act 2023, consider the following statements:

- It seeks to empower the Commander-in-Chief and Officer-in-Command of Inter-Services Organisations (ISOs) with disciplinary and administrative powers over personnel from all three services (Army, Navy, and Air Force).
- Under the Act, the President of India is empowered to appoint the Chief of Staff of an ISO.
- The Act empowers the Commander-in-Chief and Officer-in-Command of ISOs to initiate disciplinary and administrative actions against personnel, irrespective of their parent service.

How many of the statements given above are correct?

- Only one
- Only two
- All three
- None

Q.23) With reference to the Vibrant Village Programme (VVP), which of the following statement(s) is/are correct?

- The programme aims to enhance the defense capabilities of border villages.
- Creation of opportunities for livelihood generation through promotion of tourism & cultural heritage, skill development & entrepreneurship are included under the programme.
- Hub and spoke model is a concept used in VVP to promote large-scale industrial development in border areas.

Select the correct answer using the codes given below:

- 1 and 2 only
- 2 only
- 2 and 3 only
- 3 only

Q.24) With reference to the DigiLocker platform, consider the following statements:

- It is a digital platform developed by the government to facilitate the paperless storage and access of essential documents for Indian citizens.
- As per the Information Technology Rules 2016, documents issued through DigiLocker do not hold the same legal status as their original physical document.
- DigiLocker is part of Digital India's vision to ensure that citizens have a secure document access platform in the cloud.
- The DigiLocker is mandatory for passport processing.

How many of the statements given above are correct?

- Only one
- Only two
- Only three
- All four

Q.25) With reference to the Mediation Act 2023, consider the following statements:

1. The objective of the Act is to promote and facilitate mediation, especially institutional mediation.
2. The Act applies to the International Mediation that includes India.
3. The Act established the 'Arbitration Council of India' to regulate mediators and mediation institutions.

Which of the statements given above are correct?

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

Q.26) Consider the following statements regarding the Smart Cities Mission (SCM):

1. It aims to promote the development of sustainable and citizen-friendly cities across the country.
2. The central government provides financial and technical assistance to selected cities.
3. The Mission imposes stricter regulations on industrial activities within city limits.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

International Relations/Organizations

Q.27) Consider the following statements:

1. The number of phishing attacks has increased significantly due to advances in artificial intelligence (AI).
2. Prioritizing the use of AI in military and defense applications is the main objective of the 'Bletchley Declaration' in terms of AI development and implementation.

Which of the statement(s) given above is/are correct?

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

Q.28) Consider the following statements regarding the International Criminal Police Organization (Interpol):

1. The Interpol is an inter-governmental law enforcement organisation which assists and facilitates cooperation between national law forces in member countries to combat transnational crimes.
2. The agency has a National Central Bureau in all member countries.
3. Member countries are bound by international law to abide by Interpol notices.
4. The National Investigation Agency (NIA) is officially designated as the nodal agency for India.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) All four

Q.29) The 'Camp David Accords' were a peace agreement signed between:

- a) Israel and Lebanon
- b) Israel and Egypt
- c) Israel and Jordan
- d) Israel and Syria

Q.30) In the Asia Pacific region, which one of the following organisations is focused on economic growth, cooperation, trade and investment?

- a) Association of Southeast Asian Nations (ASEAN)
- b) Asia-Pacific Economic Cooperation (APEC)
- c) North Atlantic Treaty Organization (NATO)
- d) European Union (EU)

Q.31) The decision to accept a new member state in the United Nations (UN) ultimately lies with:

- a) The Security Council.
- b) The Secretary-General.
- c) The General Assembly by a two-thirds majority vote.
- d) A unanimous vote of all existing member states.

Q.32) Consider the following statements:

1. Only 0.3% of freshwater is in liquid form on the surface.
2. The area beyond Exclusive Economic Zone (EEZ) is referred to as the common heritage of mankind by the United Nations Law of the Sea Convention (UNCLOS).
3. The Geneva Conferences on the Law of the Sea established guidelines for the treatment of prisoners of war at sea.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.33) Consider the following statements:

Statement-I: India's Free Trade Agreements (FTAs) has witnessed a shift in the recent Trade and Economic Partnership Agreement with the European Free Trade Association (EFTA).

Statement-II: India has focused on prioritizing trade negotiations over investment negotiations in recent FTAs.

Which one of the following is correct in respect of the above statements?

- a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- c) Statement-I is correct but Statement-II is incorrect
- d) Statement-I is incorrect but Statement-II is correct

Q.34) Consider the following statements:

1. The United Nations Office against Terrorism (UNOCT) acts as a central unit in global counter-terrorism operations.
2. The purpose of the United Nations Counter-Terrorism Fund (UNCTF) is to support the implementation of the United Nations Global Counter-Terrorism Strategy and to allocate funds to projects and initiatives aimed at countering terrorism.

Which of the statement(s) given above is/are correct?

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

Q.35) With reference to the Global Alliance of National Human Rights Institutions (GANHRI), consider the following statements:

1. It is responsible for providing financial assistance to countries struggling with human rights issues.
2. It serves as an advisory body to the United Nations.
3. The Paris Principles, used by GANHRI for accreditation, emphasize Independence and pluralism within NHRIs.

Which of the statement(s) given above is/are correct?

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

Q.36) China-Myanmar module, seen in the news recently, is used in the context of:

- a) Economic initiative between China and Myanmar
- b) Joint military exercise conducted by China and Myanmar
- c) Environmental conservation initiative between China and Myanmar
- d) Militant activities in Manipur

Q.37) Consider the following:

1. Mandate and Competence
2. Autonomy from Government
3. Transparency in Appointment
4. Fraternity in the Society
5. Adequate Resources
6. Pluralism

According to the Paris Principles, how many of the above criteria should be met by the National Human Rights Institutions (NHRIs) for accreditation?

- a) Only three
- b) Only four
- c) Only five
- d) All six

Economy

Q.38) Consider the following statements:

1. India sets the Fair and Remunerative Price (FRP) for sugarcane each sugar season.
2. The Reserve Bank of India (RBI) has a reference range for inflation between 2% and 6%.

Which of the statement(s) given above is/are correct?

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

Q.39) Gangavaram Port is located at:

- a) Andhra Pradesh
- b) Karnataka
- c) Odisha
- d) Maharashtra

Q.40) A risky and illegal mining activity in developing nations includes children squeezing through tight tunnels to collect rich minerals. This approach frequently results in tunnel collapses and long-term health concerns. Which one of the following is the most likely term for this dangerous mining technique?

- a) Open-pit mining
- b) Surface mining
- c) Rat hole mining
- d) Tunnel mining

Q.41) The Hybrid Annuity Model (HAM) is a type of Public-Private Partnership (PPP) model used for infrastructure development in India. Which one of the following is the main feature that distinguishes HAM from other PPP models?

- a) The project's construction and funding are entirely the responsibility of private enterprises.
- b) The government takes over the project after construction and collects tolls or user fees.
- c) The government and private partner share the costs and responsibilities of the project.
- d) The project is entirely financed by the government, with private companies only involved in construction.

Q.42) Which one of the following policy measures can governments take to mitigate the impact of high food inflation?

- a) Reducing taxes on luxury goods
- b) Increasing subsidies and price controls on staple foods
- c) Deregulating all food prices
- d) Increasing export tariffs on all food products

Q.43) In India, which one of the following is responsible for governing Alternative Investment Funds (AIFs)?

- a) Reserve Bank of India (RBI)
- b) Securities and Exchange Board of India (SEBI)
- c) Insurance Regulatory and Development Authority of India (IRDAI)
- d) Pension Fund Regulatory and Development Authority (PFRDA)

Q.44) Consider the following:

1. Providing grants to alleviate debt burden
2. Offering policy advice and technical assistance
3. Investing in infrastructure projects
4. Facilitating currency exchange programs

When a country faces significant debt issues, how many of the above mechanism can be provided by the International Monetary Fund (IMF)?

- a) Only one
- b) Only two
- c) Only three
- d) All four

Q.45) An increase in the Wholesale Price Inflation (WPI) would imply which one of the following?

- a) A decrease in the overall cost of living for consumers.
- b) An increase in the average price of goods sold by businesses to each other.
- c) A rise in the interest rates by the central bank.
- d) A decrease in the value of a country's currency.

Q.46) In the context of international trade, what could be a long-term economic impact of the continuous widening of the trade deficit?

- a) Improved international credit rating
- b) Increased dependency on foreign capital
- c) Enhanced domestic industrial base
- d) Greater accumulation of foreign exchange reserves

Environment

Q.47) Consider the following statements:

1. China is the leading producer of solar power globally.
2. India has surpassed Japan in terms of installed solar power capacity.
3. Solar power constitutes 18% of India's total installed electricity capacity.

Which of the statements given above are correct?

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

Q.48) In the context of carbon offset markets, the term "carbon leakage" refers to:

- a) Unintended emissions of carbon dioxide during the implementation of the offset projects.
- b) The shift in emissions from regions with strict environmental laws to those that have less stringent rules.
- c) The reduction in carbon offset credits' value due to changes in the carbon market.
- d) The migration of carbon offset projects from the Voluntary Market to a Conformity Market.

Q.49) Which one of the following statements about hydrogen-based steelmaking (green steel) processes is correct?

- a) Hydrogen-based steelmaking processes emit more carbon dioxide than traditional steelmaking methods.
- b) Hydrogen-based steelmaking processes are in the experimental stage and have not been implemented on an industrial scale.
- c) Hydrogen-based steelmaking processes utilize hydrogen as a reducing agent instead of coal, resulting in lower carbon emissions.
- d) Hydrogen-based steelmaking processes are only feasible in regions with abundant renewable energy sources.

Q.50) With reference to the Glyptothorax punyabratai, consider the following statements:

1. It is a new catfish species.
2. It is mainly found in the Indian Ocean.
3. Its presence contributes to the regulation of prey populations and nutrient cycling.

Which of the statements given above are correct?

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

Q.51) With reference to the Sonai Rupai Wildlife Sanctuary, consider the following statements:

1. It is situated in the foothills of the Eastern Himalayas.
2. The sanctuary is primarily known for its elephant and Indian bison populations.
3. It is bordered by the Gabharu River to the west.

Which of the statements given above are correct?

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

Q.52) Consider the following statements regarding the Semal tree (Bombax ceiba):

1. It is a deciduous tree native to India.
2. It is commonly referred to as the woollen tree.
3. It is a keystone species in its native ecosystems.
4. It is valued in traditional practices such as Ayurveda.

Which of the statements given above are correct?

- a) 1, 2 and 3 only
- b) 2, 3 and 4 only
- c) 3 and 4 only
- d) 1, 3 and 4 only

Q.53) Consider the following:

1. Controlling soil erosion
2. Checking surface run-off
3. Higher decomposition rate
4. Promoting vegetation growth

How many of the above are the benefits of using 'Coir Geotextiles'?

- a) Only one
- b) Only two
- c) Only three
- d) All four

Q.54) Pine needles are used in electricity generation through the process of:

- a) Photovoltaic conversion
- b) Hydrolysis
- c) Biomass gasification
- d) Nuclear fission

Q.55) Which one of the following metals is NOT commonly extracted through biomining?

- a) Copper
- b) Gold
- c) Uranium
- d) Aluminum

Q.56) Consider the following products:

1. Paper
2. Cardboard
3. Organic food waste
4. Non-recyclable plastics

Which of the above materials are included in Refuse-Derived Fuel (RDF) production?

- a) 1, 2 and 3 only
- b) 2, 3 and 4 only
- c) 1, 2 and 4 only
- d) 1, 2, 3, and 4

Science & Technology

Q.57) The 'Widal test' is used to detect antibodies against which one of the following groups of bacteria?

- a) Escherichia coli
- b) Salmonella
- c) Streptococcus
- d) Staphylococcus

Q.58) Consider the following statements:

1. The Indian government does not permit vaccination against avian influenza.
2. Avian influenza can affect mammals like cows and goats.
3. Some strains of avian influenza have a high mortality rate among humans.

Which of the statements given above are correct?

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

Q.59) Which of these phenomena is likely to occur in regions that do not usually encounter a significant Solar Storm?

- a) Tornadoes
- b) Intense auroras
- c) Heatwaves
- d) Snowstorms

Q.60) Which one of the following best describes the term 'Protein Folding'?

- a) The process by which proteins are broken down and lose their genetic functions.
- b) The process by which a protein assumes its functional three-dimensional structure.
- c) The process by which proteins break down into smaller peptide chains.
- d) The process by which proteins are combined to form more complex protein structures.

Q.61) Consider the following statements:

1. *Caenorhabditis elegans* was the first multicellular organism to have its genome fully sequenced and its neural circuitry completely mapped.
2. Small RNA molecules (sRNAs) are non-coding RNAs known for their ability to provide structural support for ribosomes during translation.

Which of the statement(s) given above is/are correct?

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

Q.62) Consider the following statements:

1. Exoplanet is a planet that is present within our Solar System.
2. A binary star system consists of a star with a binary planetary system.

Which of the statement(s) given above is/are correct?

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

Q.63) With reference to the NASA-ISRO Synthetic Aperture Radar (NISAR) satellite, consider the following statements:

1. NISAR will be the first radar imaging satellite to use dual frequencies for observing Earth's surface.
2. NISAR will cover the entire Earth every 12 days.
3. S-band Synthetic Aperture Radar (SAR) of the satellite is capable of penetrating in depth through vegetation, snow, and soil to capture images of surface changes and movements.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.64) Consider the following statements:

1. Aurorae are produced through interactions between the Earth's magnetic field and charged particles from the Sun.
2. The formation of the aurora is enhanced by an increase in Earth's atmospheric pressure.
3. Center of Excellence in Space Sciences India (CESSI) is the only Indian institute that provides timely updates on space weather.
4. Sunspots are areas on the Sun's surface that appear dark because they are hotter than the surrounding areas.
5. Aditya-L1 satellite provide uninterrupted observations of solar phenomena.

How many of the statements given above are correct?

- a) Only two
- b) Only three
- c) Only four
- d) All five

Q.65) During which of the following phases of the 11-year solar cycle are solar activities, such as sunspots and solar flares, most prominent?

- a) Solar minimum
- b) Solar maximum
- c) Solar equilibrium
- d) Solar transition

Q.66) Consider the following statements:

1. Extrapulmonary tuberculosis (EPTB) refers to tuberculosis infections that occur outside of the lungs.
2. India accounts for 50% of the global TB burden.

Which of the statement(s) given above is/are correct?

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

Q.67) Which one of the following best describes the benefits to companies and regulators for participating in a regulatory sandbox?

- a) Companies and regulators receive benefits mostly in the form of tax exemptions and financial incentives that support long-term operating costs.
- b) The main advantage for companies is the ability to permanently avoid any regulatory compliance, while regulators benefit from reduced workload and oversight responsibilities.
- c) Businesses can test innovations in a controlled environment to gather data without the burden of regulatory compliance, while regulators gain insights into emerging technologies to form future regulations.
- d) The only benefit for businesses is immediate market access, while regulators benefit solely from increased bureaucratic control over innovative industries.

Q.68) The Indian Army is procuring another set of Russian Igla-S very short-range air defence systems (VSHORAD) system. Which one of the following types of missile system is the Igla-S classified as?

- a) Surface-to-surface missile
- b) Surface-to-air missile
- c) Air-to-air missile
- d) Man-portable air-defense missile system (MANPADS)

Q.69) Genome-Wide Association Studies (GWAS) involve analyzing vast amounts of genetic data. Which one of the following is the primary objective of a GWAS?

- a) Sequence the entire genome of an individual
- b) Identify genetic variants associated with a specific trait or disease.
- c) Analyze how genes interact with environmental factors to influence health.
- d) Modify genes to treat or cure genetic diseases.

Q.70) With reference to Soil Nailing, consider the following statements:

- 1. It is a geotechnical engineering technique that involves the insertion of reinforcing elements into the soil in a specified area to strengthen it.
- 2. It involves drilling steel tendons into the soil and grouting them in place to form a composite structure akin to a gravity wall.

Which of the statement(s) given above is/are correct?

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

Answer Key

1 - (a)	2 - (b)	3 - (d)	4 - (b)	5 - (b)	6 - (b)	7 - (b)	8 - (b)	9 - (b)	10 - (b)
11 - (b)	12 - (c)	13 - (b)	14 - (c)	15 - (a)	16 - (a)	17 - (a)	18 - (d)	19 - (a)	20 - (a)
21 - (b)	22 - (b)	23 - (b)	24 - (b)	25 - (a)	26 - (b)	27 - (a)	28 - (b)	29 - (b)	30 - (b)
31 - (c)	32 - (b)	33 - (c)	34 - (c)	35 - (c)	36 - (d)	37 - (b)	38 - (c)	39 - (a)	40 - (c)
41 - (c)	42 - (b)	43 - (b)	44 - (a)	45 - (b)	46 - (b)	47 - (c)	48 - (b)	49 - (c)	50 - (c)
51 - (a)	52 - (d)	53 - (c)	54 - (c)	55 - (d)	56 - (c)	57 - (c)	58 - (b)	59 - (d)	60 - (b)
61 - (b)	62 - (a)	63 - (d)	64 - (b)	65 - (b)	66 - (b)	67 - (a)	68 - (c)	69 - (d)	70 - (b)

Answers & Explanations

Geography

1. Correct Answer is (A)

- Cloud seeding is a process that involves introducing certain particles, such as silver iodide, dry ice, or salt, into clouds to stimulate rain or snowfall. The purpose of cloud seeding is to alter the microphysical processes within the cloud, promoting the formation of precipitation. This method is often employed to combat drought, enhance snowfall, or mitigate the impacts of hail and fog.

Source: [The Hindu](#)

2. Correct Answer is (B)

- Statements 1 and 3 are correct. Solar time is calculated based on the Earth's rotation relative to the Sun. It is variable due to the Earth's elliptical orbit and its axial tilt, which cause the apparent speed of the Sun's movement across the sky to vary at different times of the year. There is currently no standardized time system for operations in cislunar space. Each country with a space program uses its own time zone, usually based on Universal Time or the location of mission control.
- Statement 2 is incorrect. As of now, moon missions follow the time of the country that operates the spacecraft, which typically aligns with Coordinated Universal Time (UTC) of the Earth. The International Space Station also operates on UTC, but there hasn't been a standardized time system specifically for the moon or cislunar operations. This lack of a standardized time system has prompted initiatives to establish a Coordinated Lunar Time (LTC) to facilitate coordination among international bodies and private companies operating on the lunar surface and in cislunar space.

Source: [The Hindu](#)

3. Correct Answer is (D)

- Statements 1, 2 and 3 are correct. India lags behind Sri Lanka in the Human Development Index (HDI). According to the Human Development Report, Sri Lanka has consistently ranked higher than India in HDI rankings over the years. India has a significant gender gap in labor force participation. As per various sources, the female labor force participation rate in India is significantly lower than that of men, and this gap has been a persistent issue. Household debt levels reached a record high of 40% of GDP by December 2023, with unsecured personal loans growing the fastest.

Source: [The Hindu](#)

4. Correct Answer is (B)

- Statement 1 is incorrect. The biggest industrial contributors to global carbon emissions are typically the burning of fossil fuels for electricity, heat, and transportation. The steel industry is also a significant contributor, accounting for about 8% of global emissions. Titanium production does not rank as a major contributor in comparison.
- Statements 2 and 3 are correct. Titanium is not found in its pure form in nature. It is typically found in minerals such as ilmenite (FeTiO_3) and rutile (TiO_2). These minerals must be processed to extract titanium metal. China is the largest producer of titanium, particularly in the form of titanium sponge, which is a primary form of titanium produced industrially. China leads in the production and supplies a significant portion of the global demand for titanium products.

Source: [The Hindu](#)

5. Correct Answer is (B)

- Canoas – Canoas is a city in the state of Rio Grande do Sul in Brazil. Recently, it has been affected by the worst ever floods.
- Darfur – It is a region in western Sudan. There has been an ongoing civil war between the Arab and African communities. This has led to widespread violence and human rights abuses.
- Dar-es-Salaam – Dar es Salaam is the largest city and financial hub of Tanzania. It has been hit by water shortages due to climate change and infrastructure issues.
- Odesa – Odessa is a port city on the Black Sea in southern Ukraine. Odesa has been in the news recently due to several events related to the ongoing Russia-Ukraine war.

Source: [The Hindu](#)

6. Correct Answer is (B)

- The Rafah border crossing is located between Egypt and the Gaza Strip in the Palestinian territories. It is situated in the northeastern part of the Sinai Peninsula, close to the city of Al Arish in Egypt. Al Arish is the capital of the North Sinai Governorate and is located about 40 kilometers west of the Rafah border crossing.

Source: [The Hindu](#)

7. Correct Answer is (B)

- Statements 1 and 3 are incorrect. Chabahar Port is situated on the Gulf of Oman. Kandla Port in Gujarat, India, is closer to Chabahar than Mumbai.
- Statements 2 and 4 are correct. INSTC aims to connect India, Russia, and Europe through a combination of maritime, road, and railway networks. Chabahar serves as a key entry point for INSTC goods entering Iran. Chabahar's location on the Gulf of Oman allows access to Central Asian nations through Iran.

Source: [The Hindu](#)

8. Correct Answer is (B)

- Slovakia shares borders with the Czech Republic to the northwest, Austria to the southwest, Hungary to the south, Ukraine to the east, and Poland to the north. It is a landlocked country in Central Europe. Slovakia shares its longest border with Hungary.

Source: [The Hindu](#)

9. Correct Answer is (B)

- The Strait of Gibraltar is a narrow strait that separates the European continent (Iberian Peninsula) from North Africa (Maghreb region) and connects the Atlantic Ocean to the Mediterranean Sea. It is approximately 14 kilometers wide at its narrowest point and has great strategic and economic importance, as it serves as a vital shipping route between the two bodies of water.

Source: [The Times of India](#)

Polity

10. Correct Answer is (B)

- Statements 1 and 4 are correct. The right to vote in India is governed by the Representation of the People Act, 1951 (RP Act). This Act lays down the conditions under which Indian citizens can vote in elections and specifies rules regarding who is disqualified from voting. Prisoners held under preventive detention are allowed to vote in elections. The Representation of the People Act, 1951, specifically exempts persons detained under preventive detention laws from the restrictions that apply to other prisoners regarding the right to vote.
- Statements 2 and 3 are incorrect. According to Section 62(5) of the Representation of the People Act, anyone confined in prison, whether as a convict or an undertrial, is disqualified from voting. Convicts under prison in India can contest elections, although they cannot vote. Convicts with sentences of less than two years are permitted to contest, while those with longer sentences or disqualified for other reasons (e.g., convicted of serious crimes) cannot.

Source: [The Hindu](#)

11. Correct Answer is (B)

- Statements 1 and 5 are incorrect. Parliament's power to amend the Constitution is not unlimited. The Supreme Court of India established the "Basic Structure Doctrine" in the Kesavananda Bharati v. State of Kerala case (1973), which limits Parliament's power to amend the Constitution. According to this doctrine, Parliament cannot alter or destroy the basic structure of the Constitution, which includes fundamental features like federalism, secularism, democracy, and the independence of the judiciary. Article 13 of the Indian Constitution declares that any law made in breach of a fundamental right would be void, not valid. This article ensures the supremacy of fundamental rights over any other law that is inconsistent with them.
- Statements 2, 3 and 4 are correct. Article 31C of the Indian Constitution, inserted by the 25th Amendment Act of 1971, states that laws made to give effect to the directive principles specified in Article 39(b) and (c) cannot be declared void on the grounds of contravening the fundamental rights conferred by Article 14 or Article 19. Articles 14, 19, and 21 are collectively known as the

"golden triangle" of the Indian Constitution. These articles provide a broad spectrum of protection against unrestricted state power and are fundamental in safeguarding individual rights against arbitrary actions. Article 37 of the Indian Constitution states that the Directive Principles of State Policy (DPSP) outlined in Part IV of the Constitution are not enforceable by any court.

Source: [The Hindu](#)

12. Correct Answer is (C)

- The primary objective of the Karmayogi Competency Model is to enhance the skills, competencies, and capabilities of public servants. It is part of the Mission Karmayogi program, which aims to improve state execution capacity and promote continuous learning and growth among government officials. The model focuses on developing domain knowledge beyond the administrative scope of the bureaucracy to create a competent and future-ready civil service that can effectively deliver public services.

Source: [The Hindu](#)

13. Correct Answer is (B)

- Statements 1 and 3 are correct. The Indra Sawhney Case (1992) established the concept of the "creamy layer" to exclude affluent individuals from the Other Backward Classes (OBC) category benefiting from reservations. In the Janhit Abhiyan Case (2022), the Supreme Court upheld the constitutional validity of reservations based on economic criteria. The Court ruled that the 103rd Amendment to the Constitution, which introduced a 10% quota for the Economically Weaker Sections (EWS) in government jobs and educational institutions, does not violate the basic structure of the Constitution.
- Statement 2 is incorrect. Articles 15 and 16 of the Indian Constitution prohibit discrimination based on religion. These articles allow reservations for Scheduled Castes (SC), Scheduled Tribes (ST), and Other Backward Classes (OBC) to achieve social and educational equality. Religion is not a criterion for reservation.

Source: [The Hindu](#)

14. Correct Answer is (C)

- Statements 1 and 2 are correct. The concept of free and fair elections is considered an integral part of the basic structure of the Indian Constitution, as per various judgments of the Supreme Court. This means that this principle cannot be violated or amended by any law or action. Free and fair elections are the foundation of democracy and ensure that citizens have a voice in choosing their representatives. The Constitution, through Article 324, establishes the Election Commission of India as an independent body. This article empowers the Commission to conduct and control elections to Parliament and state legislatures and prepare electoral rolls. The Commission enjoys broad powers to ensure free and fair elections, including issuing directions and instructions to ensure ethical practices and prevent electoral malpractices.

Source: [The Hindu](#)

15. Correct Answer is (A)

- Statements 1 and 2 are incorrect. The Model Code of Conduct (MCC) was not directly framed based on any specific Supreme Court judgment. It originated in Kerala in 1960 and was later adopted and implemented across other states in India. The Election Commission of India (ECI), along with the Law Ministry and political parties, reached a consensus on a comprehensive Model Code of Conduct in 1974. The model code of conduct is not legally enforceable. It is a set of guidelines issued by the Election Commission of India to ensure fair play in elections. While it has moral and ethical implications, there are no legal provisions that enforce the MCC directly. Violations of the MCC are dealt with by the ECI through measures such as censure or reprimands, but these do not involve legal penalties or court actions.

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- Statement 3 is correct. Neither The Representation of the People Act nor The Conduct of Election Rules makes any provision for the Model Code of Conduct. The MCC is a creation of the Election Commission based on a consensus among political parties and is enforced through the moral and administrative authority of the ECI rather than through statutory provisions.

Source: [The Hindu](#)

16. Correct Answer is (A)

- Statements 1 and 2 are correct. The Election Symbols (Reservation and Allotment) Order, 1968, brought out by the Election Commission of India (ECI), makes provisions to deal with violations of the Model Code of Conduct. Paragraph 16A of the Symbols Order states that the ECI can suspend or withdraw recognition of a political party for violations of the Model Code of Conduct, which directly impacts the party's ability to use its reserved symbol during elections. The Representation of the People Act, 1951, specifically under Section 123(3), declares that any appeal by a candidate or any other person with the consent of the candidate or his election agent to vote or refrain from voting on the ground of religion, race, caste, community, or language is a corrupt practice. Such practices are sufficient grounds to annul the election in which such an appeal was made.
- Statement 3 is incorrect. The suspension or removal of a party's recognition deprives it of the symbol reserved for it. According to the Election Symbols (Reservation and Allotment) Order, 1968, if a party's recognition is suspended or withdrawn, it loses the right to use the symbol that had been reserved for it.

Source: [The Hindu](#)

17. Correct Answer is (A)

- Statement 1 is correct. The Supreme Court of India has interpreted the right to life under Article 21 of the Constitution to include the right to adequate housing. This interpretation expands the scope of Article 21 to ensure a dignified life for all citizens.
- Statement 2 is incorrect. The Credit Linked Subsidy Scheme (CLSS) under the Pradhan Mantri Awas Yojana-Urban (PMAY-U) is designed to provide interest subsidies on housing loans to eligible beneficiaries from Economically Weaker Sections (EWS), Low Income Groups (LIG), and Middle-Income Groups (MIG). It does not specifically focus on slum rehabilitation. The component of PMAY-U that focuses on slum rehabilitation is the In Situ Slum Redevelopment (ISSR).

Source: [The Hindu](#)

18. Correct Answer is (D)

- Statement 1 is incorrect. India does not have specific laws that directly address live-in partnerships. However, the Supreme Court of India has played a crucial role in recognizing and legitimizing live-in relationships through various judgments.
- Statement 2 is incorrect. While couples in live-in relationships in India receive certain legal protections, they are not covered by all the laws that apply to married couples. The legal framework for live-in relationships is not as comprehensive as that for marriage.

Source: [The Hindu](#)

19. Correct Answer is (A)

- Only 1 is correctly matched.
- Article 22(2) – Every person who is arrested and detained in custody shall be produced before the nearest magistrate within a period of twenty-four hours.
- Article 22(3) - Exceptions for enemy aliens and preventive detention from Clauses 1 and 2.
- Article 22(4) - Conditions for extending preventive detention.

Source: [The Hindu](#)

20. Correct Answer is (A)

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- Statements 1 and 2 are incorrect. The primary legal framework governing internet shutdowns in India is the Temporary Suspension of Telecom Services (Public Emergency or Public Safety) Rules, 2017, under the Indian Telegraph Act, 1885. In *Anuradha Bhasin v. Union of India (2020)*, the Supreme Court provided guidelines to regulate internet shutdowns in India.
- Statement 3 is correct. According to the Keep It On coalition, India witnessed the highest number of internet shutdowns globally in 2023, with 116 instances. This marks the sixth consecutive year that India has held this record.

Source: [The Hindu](#)

Acts & Policies

21. Correct Answer is (B)

- The "Give It Up" campaign, launched by the Indian government in 2015, aims to encourage affluent households to voluntarily give up their LPG (liquefied petroleum gas) subsidies. The primary goal is to reduce the government's subsidy burden and enable the saved resources to be utilized for providing LPG connections to poorer households. The campaign promotes a sense of social responsibility among citizens and supports the government's efforts to ensure clean cooking fuel access for all.

Source: [The Hindu](#)

22. Correct Answer is (B)

- Statements 1 and 3 are correct. The Act seeks to empower the Commander-in-Chief and Officer-in-Command of Inter-Services Organisations (ISOs) with disciplinary and administrative powers over personnel from all three services (Army, Navy, and Air Force). This empowerment allows them to exercise command and control over the personnel serving in or attached to ISOs, ensuring proper discharge of duties and maintenance of discipline. It empowers the Commander-in-Chief and Officer-in-Command of ISOs to initiate disciplinary and administrative actions against personnel, irrespective of their parent service. This provision is aimed at ensuring uniformity and expediency in disciplinary proceedings within ISOs.
- Statement 2 is incorrect. The Act does not grant the President the authority to appoint the Chief of Staff of an ISO. The power likely lies with the senior-most officer from the dominant service within the specific ISO.

Source: [The Hindu](#)

23. Correct Answer is (B)

- Statements 1 and 3 are incorrect. VVP focuses on improving the quality of life, economic development, and infrastructure in border villages to prevent out-migration and indirectly support border security by maintaining populated border areas. The hub and spoke model in the context of VVP is used to promote social entrepreneurship and not large-scale industrial development. It aims to develop growth centers that facilitate social entrepreneurship, empowerment of youth and women through skill development, and leverage tourism potential.
- Statement 2 is correct. VVP includes the creation of opportunities for livelihood generation through the promotion of tourism, cultural heritage, skill development, and entrepreneurship. These efforts are aimed at improving the economic conditions and quality of life in the border villages.

Source: [The Hindu](#)

24. Correct Answer is (B)

- Statements 1 and 3 are correct. DigiLocker is a digital platform developed by the Indian government aimed at facilitating the paperless storage and access of essential documents, supporting the government's initiative towards a paper-free environment. DigiLocker is a flagship

initiative under the Digital India programme, which aims to provide citizens with a secure document access platform on a public cloud.

- Statements 2 and 4 are incorrect. According to the Information Technology (Preservation and Retention of Information by Intermediaries providing Digital Locker facilities) Rules, 2016, documents issued through DigiLocker are deemed to be at par with original physical documents. Although DigiLocker can be used to store and access identity documents like Aadhaar cards, driving licenses, and educational certificates, it is not mandatory to have a DigiLocker account for passport processing.

Source: [The Hindu](#)

25. Correct Answer is (A)

- Statements 1 and 2 are correct. The Act's primary objective is to encourage and simplify mediation, with a focus on institutional mediation, for resolving various disputes. The Act covers international mediation that takes place in India, and the settlement agreement is enforceable in India.
- Statement 3 is incorrect. The Act established the 'Mediation Council of India' for the registration of mediators, mediation service providers, and mediation institutions, and to regulate and promote mediation in India. The Arbitration Council of India is a separate body under the Arbitration and Conciliation Act, 1996, which focuses on arbitration rather than mediation.

Source: [The Hindu](#)

26. Correct Answer is (B)

- Statements 1 and 2 are correct. The Smart Cities Mission is designed to promote the development of sustainable and citizen-friendly urban environments by enhancing urban life through improved infrastructure, efficient public transport, and the incorporation of smart solutions. The SCM involves financial and technical support from the central government to the cities selected through a competitive process.
- Statement 3 is incorrect. The Smart Cities Mission primarily focuses on enhancing urban infrastructure, governance, and sustainability through the use of technology and innovation. It does not impose stricter regulations on industrial activities within city limits. The mission's focus is more on developing efficient and sustainable urban spaces rather than regulating industrial activities.

Source: [The Hindu](#)

International Relations/Organizations

27. Correct Answer is (A)

- Statement 1 is correct. There has been a significant increase in phishing attacks due to the advances in artificial intelligence (AI). Reports highlight how AI, particularly generative AI, has been utilized to enhance the sophistication and effectiveness of phishing campaigns, leading to notable rises in such attacks.
- Statement 2 is incorrect. The Bletchley Declaration aims to establish a global framework for the ethical use of artificial intelligence (AI), focusing on the safe, human-centric, trustworthy, and responsible development and deployment of AI systems. While AI has potential applications in various sectors, including defense and military, prioritizing its use specifically in these areas is not the main objective of the Bletchley Declaration.

Source: [The Hindu](#)

28. Correct Answer is (B)

- Statements 1 and 2 are correct. Interpol is an international organization that facilitates cooperation between the police forces of member countries to combat international crime. Each member country of Interpol maintains a National Central Bureau (NCB), which acts as the liaison between the country's law enforcement and Interpol's General Secretariat, as well as other

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member countries. The agency uses a 'colour-coded' system to alert and share requests for crime-related information among member countries and global organisations.

- Statements 3 and 4 are incorrect. While Interpol notices are significant and member countries are encouraged to cooperate, they are not legally binding. Member countries may choose how to respond to these notices based on their national laws and the legal value they assign to such notices. The Central Bureau of Investigation (CBI) is the nodal agency for Interpol in India.

Source: [The Hindu](#)

29. Correct Answer is (B)

- The Camp David Accords were a pair of political agreements signed on September 17, 1978 by Egyptian President Anwar Sadat and Israeli Prime Minister Menachem Begin, following 12 days of secret negotiations facilitated by U.S. President Jimmy Carter at Camp David. The two key agreements were: a) A Framework for Peace in the Middle East, and b) A Framework for the Conclusion of a Peace Treaty between Egypt and Israel.

Source: [NewsonAIR](#)

30. Correct Answer is (B)

- APEC is a regional economic forum comprising 21 member economies, including countries from North America, South America, Asia, and Oceania. The primary goal of APEC is to support sustainable economic growth and prosperity in the Asia-Pacific region by promoting free trade, investment, and cooperation among its members.

Source: [The Times of India](#)

31. Correct Answer is (C)

- The decision to accept a new member state into the United Nations is ultimately made by the General Assembly, based on a recommendation from the Security Council. The General Assembly decides upon the application for membership by a two-thirds majority of the members present and voting.

Source: [The Times of India](#)

32. Correct Answer is (B)

- Statements 1 and 2 are correct. Statistics show that the total volume of water on earth is estimated at 1.386 billion km³, where 97.5% is salt water and 2.5% freshwater. Out of this freshwater, only 0.3% is in liquid form on the surface, which means that the rest of the freshwater is underground, including on or under the ocean bed. The United Nations Convention on the Law of the Sea (UNCLOS) refers to the area beyond the Exclusive Economic Zones (EEZs) of coastal states as the "Area" and designates it as the "common heritage of mankind." This principle implies that the resources in this area belong to all of humanity and should be managed for the benefit of all nations.
- Statement 3 is incorrect. The Geneva Conventions on the Law of the Sea, held in 1958, did not specifically establish guidelines for the treatment of prisoners of war at sea. The Geneva Conventions on the Law of the Sea focused on issues such as fishing rights, navigation, and territorial waters.

Source: [The Hindu](#)

33. Correct Answer is (C)

- Statement I is correct. The recent FTA with EFTA marks a significant shift as it includes a detailed investment chapter, which is a departure from some of India's other recent FTAs that have not included such comprehensive investment provisions.
- Statement-II is incorrect because India has not prioritized trade negotiations over investment negotiations in recent FTAs. Instead, it has focused on decoupling or separation of the two aspects. India's approach is to have separate agreements on trade and investment with the same country, as seen in the case of the UAE, where India signed an FTA in 2022 and a separate bilateral

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investment treaty earlier this year. This indicates a parallel treatment of trade and investment negotiations, rather than prioritizing one over the other.

Source: [The Hindu](#)

34. Correct Answer is (C)

- Statements 1 and 2 are correct. The United Nations Office against Terrorism (UNOCT) plays a central role in coordinating and implementing the United Nations' global counter-terrorism efforts. It provides assistance to Member States in their efforts to combat terrorism through capacity-building, technical support, and other measures. The UNCTF was established to support the implementation of the United Nations Global Counter-Terrorism Strategy. It relies on voluntary contributions to finance counter-terrorism activities and capacity-building projects aimed at countering terrorism globally.

Source: [Forum IAS](#)

35. Correct Answer is (C)

- Statement 1 is incorrect. GANHRI does not provide financial assistance to countries. Its primary role is to strengthen and support National Human Rights Institutions (NHRIs) through accreditation, capacity building, and facilitating their engagement with international human rights systems. GANHRI's activities include organizing international conferences, supporting NHRIs in danger, and assisting governments in establishing NHRIs, but it does not involve direct financial assistance to countries.
- Statements 2 and 3 are correct. GANHRI serves as an advisory body to the United Nations, particularly through its cooperation with the UN Human Rights Council and other UN mechanisms. It facilitates the relationship of NHRIs with the UN, supports their engagement in international human rights mechanisms, and provides a platform for NHRIs to share best practices and challenges. The Paris Principles set the standards for the independence and pluralism of NHRIs. These principles require NHRIs to have a mandate to promote and protect human rights, operate independently from the government, and ensure pluralistic representation of society in their membership. GANHRI uses these principles to accredit NHRIs, assessing them based on their adherence to these criteria.

Source: [The Hindu](#)

36. Correct Answer is (D)

- The term "China-Myanmar module" has been recently used in the context of militant activities in the Indian state of Manipur. According to reports, the National Investigation Agency (NIA) of India has stated that the China-Myanmar module of the National Socialist Council of Nagaland (NSCN-IM) has been supporting banned terrorist organizations in Manipur to destabilize the region through violence and illegal arms supply. This module operates from Myanmar and allegedly receives support from China.

Source: [The Hindu](#)

37. Correct Answer is (B)

- The Paris Principles are a set of international standards which guide the establishment and operation of National Human Rights Institutions (NHRIs). These principles were adopted by the United Nations General Assembly in 1993 and are formally known as the "Principles Relating to the Status of National Institutions". The Paris Principles set out six main criteria that NHRIs are expected to meet. These are: Mandate and competence, Autonomy from Government, Independence guaranteed by a Statute or Constitution, Pluralism, Adequate Resources; and adequate powers of investigations.

Source: [The Hindu](#)

Economy

38. Correct Answer is (C)

- Statements 1 and 2 are correct. The Indian government sets the Fair and Remunerative Price (FRP) for sugarcane each sugar season. The FRP is the minimum price that sugar mills are legally required to pay sugarcane farmers. The Commission for Agricultural Costs and Prices (CACP) recommends the FRP, which is then approved by the Cabinet Committee on Economic Affairs. The FRP aims to ensure fair compensation for farmers while maintaining the financial viability of sugar mills. In addition to the Fair and Remunerative Price (FRP) set by the central government, some Indian states also set their own minimum prices for sugarcane, known as State-Advised Prices (SAPs). These SAPs are typically set to address regional differences in production costs and to provide additional support to sugarcane farmers in those states. In states where SAPs are applicable, sugar mills are required to pay the higher of the FRP or SAP to the farmers. The Reserve Bank of India (RBI) has a reference range for inflation, specifically targeting an inflation rate of 4% with a tolerance band of +/- 2%, effectively setting the range between 2% and 6%.

Source: [The Hindu](#)

39. Correct Answer is (A)

- Gangavaram Port, also known as Visakhapatnam Port or Vizag Port, is located in the state of Andhra Pradesh. It is a deep-water port that has been operational since 2009.

Source: [The Hindu](#)

40. Correct Answer is (C)

- Rat hole mining is a hazardous, crude, and unscientific technique often practiced in developing nations. It involves digging small vertical pits or tunnels, often by hand, to extract minerals such as coal, gold, or precious gemstones. These tunnels can be as narrow as 3-4 feet in diameter, and miners (including children) have to crawl or use makeshift carts to navigate through them.

Source: [The Hindu](#)

41. Correct Answer is (C)

- In the HAM model, the government and the private partner each bear a portion of the project cost, typically 40% and 60%, respectively. The private partner is responsible for the construction and maintenance of the project for a specified period, usually around 15 years. During the operations period, the government collects tolls or user fees and pays a fixed annuity to the private partner, sharing both the financial burden and revenue generated by the project. This model aims to balance the risks and rewards between the public and private sectors while ensuring the successful development and maintenance of infrastructure projects.

Source: [The Hindu](#)

42. Correct Answer is (B)

- High food inflation can make basic food items unaffordable for many people, particularly the lower-income population. To address this issue, governments can implement policies such as increasing subsidies on essential food items and setting price controls to help keep the costs down. These measures can ensure that people have access to affordable food and can help reduce the overall impact of high food inflation.

Source: [The Hindu](#)

43. Correct Answer is (B)

- SEBI is the regulatory authority for the securities market in India and is responsible for protecting the interests of investors and ensuring the orderly functioning of the securities market. SEBI regulates AIFs, which are privately pooled investment vehicles that collect funds from sophisticated investors, including Indian and foreign entities, to invest in a range of asset classes.

Source: [The Hindu](#)

44. Correct Answer is (A)

- **Providing grants to alleviate debt burden** - The IMF does not provide grants to alleviate debt burdens directly. The IMF offers financial assistance through loans to countries facing economic challenges. These loans come with conditions that encourage economic reforms.
- **Offering policy advice and technical assistance** - The IMF provides extensive policy advice and technical assistance to member countries to help manage and resolve their debt issues. This includes assistance in formulating debt management strategies and economic policies to restore debt sustainability.
- **Investing in infrastructure projects** - The IMF does not invest in infrastructure projects. Its role is primarily focused on financial stability and providing policy advice and financial assistance rather than direct investment in infrastructure.
- **Facilitating currency exchange programs** - The IMF facilitates financial stability and may provide financial resources to help countries stabilize their currency. However, it does not specifically run currency exchange programs. Its financial assistance often aims to support balance of payments needs, which can indirectly help stabilize a country's currency.

Source: [The Hindu](#)

45. Correct Answer is (B)

- An increase in the Wholesale Price Inflation (WPI) implies a rise in the average price of goods sold by businesses to each other at the wholesale level. WPI measures changes in the prices of goods in bulk transactions between businesses, so an increase in WPI means businesses are paying more for the products they buy from other businesses. This increase in costs at the wholesale level can eventually affect retail prices for consumers if the businesses pass on the higher costs.

Source: [The Hindu](#)

46. Correct Answer is (B)

- A continuous trade deficit means that a country is importing more than it is exporting, leading to a negative balance of trade. To finance this deficit, the country often relies on foreign capital, either through borrowing or attracting foreign investment. This increased reliance on foreign capital can make the country more vulnerable to changes in global financial markets, interest rates, and the economic conditions of its lending partners.

Source: [The Hindu](#)

Environment

47. Correct Answer is (C)

- Statements 1 and 3 are correct. Globally, renewable energy sources contributed to 30% of the electricity produced in 2023, with China leading the increase in solar and wind power generation. China is the leading producer of solar power globally, generating 584 BU of solar power in 2024, more than the four countries combined — the United States, Japan, Germany, and India. According to data from NITI Ayog, as of May 2024, solar power constitutes 18% of India's total installed electricity capacity of 442 GW but accounts for only 6.66% of the actual power produced.
- Statement 2 is incorrect. In 2023, India surpassed Japan to become the world's third-highest producer of solar power. While India outpaced Japan in solar power production, it remains behind in terms of installed power capacity. India's total installed power capacity is 73 gigawatts (GW), placing it fifth globally, while Japan holds the third position with 83 GW.

Source: [The Hindu](#)

48. Correct Answer is (B)

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- Carbon leakage refers to the phenomenon where efforts to reduce emissions in one region or sector leads to an increase in emissions in another region or sector. This typically occurs when restrictive environmental policies in one country cause industries that produce high levels of greenhouse gases to relocate to countries with less stringent regulations. This shift can undermine the overall effectiveness of emission reduction efforts.

Source: [The Hindu](#)

49. Correct Answer is (C)

- Hydrogen-based steelmaking processes aim to reduce or eliminate the carbon emissions associated with traditional steel production. In these processes, hydrogen serves as a reducing agent in place of coal-based coke, which significantly reduces carbon dioxide emissions. The primary byproduct of hydrogen-based steelmaking is water, making it a potentially cleaner alternative to conventional methods. Technologies involved in Hydrogen-based steelmaking processes are: Direct Reduction of Iron (DRI), Electric Arc Furnaces (EAFs), hot briquetted iron (HBI).

Source: [The Hindu](#)

50. Correct Answer is (C)

- Statements 1 and 3 are correct. Glyptothorax punyabratai is a new catfish species discovered in the Brahmaputra River drainage system in Arunachal Pradesh, India. It was first described by researchers from the ICAR-National Bureau of Fish Genetic Resources (ICAR-NBFGR) in 2023. The presence of Glyptothorax punyabratai, like other fish species, contributes to the regulation of prey populations and nutrient cycling in the aquatic ecosystem.
- Statement 2 is incorrect. Glyptothorax punyabratai was found in the Tung Stream, a tributary of the Tissa River, which is part of the Brahmaputra River drainage system. It lives in certain freshwater areas in India.

Source: [Forum IAS](#)

51. Correct Answer is (A)

- Statements 1 and 2 are correct. The Sonai Rupai Wildlife Sanctuary is located in the foothills of the Eastern Himalayas, in the Sonitpur district of Assam, India. It shares a border with the Kameng Reserved Forest of Arunachal Pradesh. It is known as the "Jewel of Assam". Sonai Rupai Wildlife Sanctuary is known for its diverse fauna, including significant populations of Asian elephants and Indian bison (also known as gaur).
- Statement 3 is incorrect. The sanctuary is bordered by the Gabharu River to the east.

Source: [Forum IAS](#)

52. Correct Answer is (D)

- Statements 1, 3 and 4 are correct. The Semal tree is a deciduous tree, meaning it sheds its leaves annually, and it is native to India as well as other parts of South and Southeast Asia. The Semal tree plays a crucial role in its native ecosystems by supporting a wide range of wildlife and contributing to ecological balance. The Semal tree is used in traditional medicinal practices, including Ayurveda, where various parts of the tree are utilized for their health benefits. It is known for its antimicrobial, anti-inflammatory, and analgesic properties.
- Statement 2 is incorrect. The Semal tree is commonly known as the silk cotton tree due to the cotton-like fibers produced by its seeds.

Source: [The Hindu](#)

53. Correct Answer is (C)

- Coir geotextiles are made from natural coconut fiber, which is biodegradable and environmentally friendly. These geotextiles help in stabilizing the soil by providing a protective layer that reduces the impact of raindrops on the soil surface, thereby preventing soil displacement. Additionally,

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they facilitate the growth of vegetation, which further helps in soil stabilization and erosion control. Geotextiles help in reducing surface run-off. By absorbing and retaining water, they slow down the flow velocity, which minimizes erosion and prevents the washing away of soil. However, Coir geotextiles have a much lower decomposition rate than other natural fibers due to their high lignin content.

Source: [The Hindu](#)

54. Correct Answer is (C)

- Pine needles can be utilized in electricity generation through the process of biomass gasification. In this process, pine needles and other biomass materials are converted into a combustible gas mixture, called producer gas or syngas, by applying heat and controlling the amount of oxygen present. This syngas can then be used to fuel generators, producing electricity in a renewable and carbon-neutral manner. This method not only helps in generating clean energy but also contributes to managing forest waste and reducing the risk of wildfires.

Source: [The Hindu](#)

55. Correct Answer is (D)

- Aluminium is not commonly extracted through biomining. Biomining is a technique that uses microorganisms to extract metals from ores and other materials. This process is also known as bioleaching or bio-oxidation. Commonly extracted metals through biomining include copper, gold, and uranium, among others.

Source: [The Hindu](#)

56. Correct Answer is (C)

- Refuse derived fuel (RDF) is made from household and commercial garbage, which includes both biodegradable materials and plastics. It is typically composed of biodegradable waste, non-recyclable plastics, paper, and other combustibles. RDF is produced from combustible components and which are mainly non-recyclable. Materials that are suitable for recycling, such as metals, glass, high-grade plastics, organic food waste and Hazardous Waste are typically excluded from RDF production. Material included in RDF production are: Paper and Cardboard, Non-Recyclable Plastics, Textiles, Rubber and Tires. Moreover, organic food waste is generally excluded from RDF production as it is biodegradable and can be processed through composting or anaerobic digestion to produce organic fertilizers or biogas.

Source: [The Hindu](#)

57. Correct Answer is (C)

- Statements 1 and 2 are correct. Soil nailing is a geotechnical engineering technique that involves the insertion of reinforcing elements into the soil to strengthen it. It is commonly used for slope stabilization, retaining walls, and excavation support. The process of soil nailing involves drilling steel tendons (also known as nails) into the soil and grouting them in place to create a composite structure. This structure functions similarly to a gravity wall, as the nails, and the grout act together with the soil to form a stable and reinforced mass.

Source: [Forum IAS](#)

Science & Technology

58. Correct Answer is (B)

- The Widal test is a rapid blood test commonly used in India to diagnose typhoid. Typhoid is caused by Salmonella typhi and related bacteria, spreading through contaminated food and water. Therefore, the Widal test is used to detect antibodies against Salmonella bacteria, particularly Salmonella typhi and Salmonella paratyphi, which are the causative agents of typhoid and paratyphoid fever, respectively.

Source: [The Hindu](#)

59. Correct Answer is (D)

- Statements 1, 2 and 3 are correct. The Indian government does not permit vaccination against avian influenza, also known as bird flu. This is because vaccination can mask the presence of the virus in birds, leading to difficulties in differentiating between infected and vaccinated birds. Instead, the government focuses on culling infected birds and implementing strict biosecurity measures to control the spread of avian influenza. While avian influenza primarily affects birds, it can also infect mammals, including cows and goats. The virus can spread to mammals through direct contact with infected birds or contaminated surfaces. Some strains of avian influenza, such as H5N1, have been associated with high mortality rates in humans. The overall number of human cases and deaths is relatively low, but the high mortality rate among those infected is a cause for concern.

Source: [The Hindu](#)

60. Correct Answer is (B)

- One of the effects of a solar storm striking Earth is the creation of the “northern lights” or auroras, which are seen in the regions around the Arctic Circle. During significant solar storms, these auroras can be observed much farther from the poles than usual, in regions that do not typically encounter them.

Source: [NewsonAIR](#)

61. Correct Answer is (B)

- Protein folding refers to the process in which a polypeptide chain (a linear chain of amino acids) transforms into a functional three-dimensional structure, which is essential for its biological activity. This three-dimensional structure is determined by the specific sequence of amino acids in the protein and the interactions between them, as well as interactions with the surrounding environment. Protein folding plays a crucial role in protein function, as it allows the protein to adopt a specific conformation that enables it to perform its designated tasks within cells.

Source: [The Hindu](#)

62. Correct Answer is (A)

- Statement 1 is correct. *Caenorhabditis elegans* was the first multicellular organism to have its entire genome sequenced, which was completed in 1998. Additionally, it is also the only organism to have its neural circuitry completely mapped, making it an invaluable model system for studying neuroscience, developmental biology, and genetics.
- Statement 2 is incorrect. Small RNA molecules, such as microRNAs (miRNAs), small interfering RNAs (siRNAs), function in regulating gene expression at the post-transcriptional level, by affecting mRNA stability and translation.

Source: [The Hindu](#)

63. Correct Answer is (D)

- Statements 1 and 2 are incorrect. An exoplanet, also known as an extrasolar planet, is a planet that orbits a star other than the Sun and is therefore not within our Solar System. A binary star system consists of two stars that are gravitationally bound to each other and orbit a common center of mass.

Source: [The Hindu](#)

64. Correct Answer is (B)

- Statements 1 and 2 are correct. The NASA-ISRO Synthetic Aperture Radar (NISAR) satellite is a joint venture between NASA and ISRO, designed to observe Earth's surface with high precision. It features dual-frequency radars: the L-band (provided by NASA) and the S-band (developed by

ISRO). NISAR will be the first radar imaging satellite to utilize dual frequencies, specifically the L-band and S-band, to observe Earth's surface. This dual-frequency approach allows for detailed observations of Earth's surface, including areas covered by dense vegetation or cloud cover. NISAR satellite will map nearly the entire Earth's land and ice surfaces every 12 days. It will scan the Earth twice every 12 days in ascending and descending passes, and can operate day and night, even through clouds.

- Statement 3 is incorrect. While the S-band SAR on NISAR can penetrate light vegetation and is useful for certain applications like monitoring soil moisture and slight vegetation, it does not have the capability to penetrate through vegetation, snow, and soil as deeply as the L-band SAR. The L-band, with its longer wavelength, is more effective for deeper penetration through these materials.

Aspect	L-Band SAR	S-Band SAR
Frequency Range	1 to 2 GHz	2 to 4 GHz
Wavelength	15 to 30 cm	7.5 to 15 cm
Penetration	High (penetrates vegetation, soil, snow)	Moderate (limited penetration)
Resolution	Lower resolution	Higher resolution
Surface Detail	Better for large-scale observations	Better for detailed surface observations
Tectonic Monitoring	Effective for monitoring land deformation	Less effective for tectonic monitoring
Atmospheric Impact	Less affected by rain and atmospheric conditions	More susceptible to attenuation by rain

Source: [The Hindu](#)

65. Correct Answer is (B)

- Statements 1, 3 and 5 are correct. Aurorae (northern and southern lights) occur when charged particles from the Sun interact with the Earth's magnetic field, and the resulting energy is released as light. The Center of Excellence in Space Sciences India (CESSI) is the primary and the only institute in the country that offers up-to-date information on space weather, including solar activity and its impact on Earth. Aditya-L1 is India's first solar mission, designed to observe the Sun's corona, solar wind, and other solar phenomena from a point in space known as the L1. The mission aims to provide continuous and uninterrupted observations of the Sun's behavior, which will enhance our understanding of space weather and its impacts on Earth.
- Statements 2 and 4 are incorrect. The formation of aurorae is not enhanced by an increase in Earth's atmospheric pressure. When solar eruptions release charged particles, they can get trapped in Earth's magnetic field, causing geomagnetic storms. These storms interact with atoms in the upper atmosphere, resulting in the creation of aurorae. Sunspots are areas on the Sun's surface that appear dark because they are cooler than the surrounding areas, not hotter. These regions have intense magnetic activity, which inhibits convection and results in a lower temperature compared to their surroundings. Sunspots are associated with magnetic activity, which can influence solar emissions and lead to irregularities such as solar flares and coronal mass ejections. Sunspots can last for several weeks to a few months, depending on their size and the intensity of the magnetic activity around them. Sunspots are most prevalent during the solar maximum.

Source: [The Hindu](#)

66. Correct Answer is (B)

- Solar activities, such as sunspots and solar flares, are most prominent during the solar maximum phase of the 11-year solar cycle. This is the period when the Sun's magnetic field is most active, and the number of sunspots, solar flares, and other solar phenomena reach their peak levels. The solar maximum phase typically lasts for several years, and it is followed by a gradual decrease in

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solar activity during the declining phase, which ultimately leads to the solar minimum phase when the Sun is relatively calm. The 11-year solar cycle, also known as the solar magnetic activity cycle, sunspot cycle, or Schwabe cycle, is a cycle of roughly 11 years where the Sun's magnetic field and overall activity level fluctuate between a period of minimum activity to a period of maximum activity, and then back to minimum again. Over this cycle, the Sun's magnetic field undergoes a complete reversal. The north and south magnetic poles swap places. The number and size of sunspots increase significantly.

Source: [The Hindu](#)

67. Correct Answer is (A)

- Statement 1 is correct. Extrapulmonary tuberculosis (EPTB) refers to tuberculosis infections that occur outside of the lungs, affecting other organs such as the lymph nodes, brain, gut, and eyes.
- Statement 2 is incorrect. India accounts for a significant portion of the global TB burden. As of the latest reports, India accounts for approximately 27% of the global TB burden.

Source: [The Hindu](#)

68. Correct Answer is (C)

- Regulatory sandboxes provide a controlled environment where businesses can test innovations and gather valuable data without the full burden of regulatory compliance. This setup allows companies to refine their products or services based on real-world feedback and performance. Moreover, regulators benefit from gaining firsthand insights into emerging technologies, which can inform the development of future regulations that are both effective and conducive for innovation. Regulatory sandboxes are being used in the context of developing AI.

Source: [The Hindu](#)

69. Correct Answer is (D)

- The Iglá-S is a Russian-made man-portable air-defense missile system (MANPADS). It is designed to engage and destroy low-flying aircraft, helicopters, and unmanned aerial vehicles (UAVs).

Source: [The Hindu](#)

70. Correct Answer is (B)

- The primary objective of a Genome-Wide Association Study (GWAS) is to identify genetic variants, such as single nucleotide polymorphisms (SNPs), that are associated with a specific trait, condition, or disease. It involves rapidly scanning markers across the complete sets of DNA, or genomes, of many people to find genetic variations associated with a particular disease.

Source: [The Hindu](#)