

10 PM Current Affairs Quiz Weekly Compilation

For UPSC CSE Prelims

[2nd Week] April, 2024

10 PM Compilation April [Second Week] 2024

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Art & Culture and Medieval History

Q.1) Consider the following pairs:

Festivals-----States

1. Ugadi-----Telangana
2. Gudi Padwa-----Maharashtra
3. Puthandu-----Karnataka

Which of the above pairs are correctly matched?

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

Q.2) Consider the following statements:

1. Raja Jayadhwaj Singha was the founder of the Ahom dynasty.
2. The Ahom tribes are known for their contributions to Assamese culture.
3. The battle of Saraighat was fought between the Ahom and the Mughals.

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.3) Consider the following statements:

1. Thrissur Pooram Festival is celebrated in Tamil Nadu.
2. Boat race is the main highlight of the Thrissur Pooram Festival.

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

Modern Indian History

Q.4) Consider the following statements:

1. Ambedkar idealized village life as self-reliant, equitable, and just, advocating for the decentralization of power to villages through Gram Swaraj.
2. Ambedkar encouraged Dalits to live in villages because he believed it could help them escape from the caste 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

Geography

Q.5) During a total solar eclipse, the observer witness darkness because:

- a) The Earth casts its shadow on the Sun.
- b) The Moon completely blocks the Sun's light from reaching the observer.
- c) The Sun's temperature drops significantly during the eclipse.
- d) The Earth's atmosphere refracts all sunlight away from the observer.

Q.6) The Hormuz Strait is a strategically important waterway located between:

- a) Iran and Saudi Arabia
- b) Oman and Yemen
- c) Iran and Oman
- d) United Arab Emirates and Qatar

Q.7) The 'Ural Mountains' running from north-south, separates:

- a) Eastern Europe and Western Asia
- b) Northern Europe and Southern Europe
- c) Central Asia and South Asia
- d) Western Europe and Eastern Europe

Q.8) The Oceanic Niño Index (ONI) primarily measures which one of the following?

- a) Sea surface temperature anomalies in the Pacific Ocean
- b) Atmospheric pressure differentials across ocean basins
- c) Ocean salinity levels in the Atlantic Ocean
- d) Wave heights in the Indian Ocean

Q.9) The McMahon Line, a disputed boundary claimed by India, forms part of the Line of Actual Control (LAC) in which one of the following sectors?

- a) Eastern Sector
- b) Middle Sector
- c) Western Sector
- d) Southern Sector

Q.10) Consider the following statements:

1. Cuba is the world's leading producer of cobalt.
2. Copper is used in power cables, wind turbines, electric vehicles and solar panels, and is the key material for energy transition.

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.11) Consider the following countries:

1. Bahrain
2. Kyrgyzstan
3. Cyprus
4. Iran
5. Turkmenistan
6. Jordan
7. Lebanon

How many of the above countries are part of the West Asia?

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

Q.12) With reference to the country Ecuador, which of the following statement(s) is/are correct?

1. It is a country in northwestern South America.
2. Atlantic Ocean borders Ecuador to the west.
3. The Equator passes through the middle of Ecuador.

Select the correct answer using the codes given below:

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

Q.13) The Golan Heights is a plateau bordering which one of the following bodies of water to the west?

- a) Mediterranean Sea
- b) Red Sea
- c) Sea of Galilee
- d) Dead Sea

Q.14) Both El Nino and La Nina can influence global agricultural production. In which one of the following ways can La Nina disrupt agricultural activities in Southeast Asia?

- a) Causing more frequent and intense droughts.
- b) Leading to widespread wildfires due to extreme heat.
- c) Bringing longer periods of heavy rainfall and flooding.
- d) Generating erratic weather patterns with alternating hot and cold spells.

Q.15) Consider the following statements:

1. Hydrocarbons primarily exist as natural gas, coal, crude oil, and petroleum within subterranean rock formations.
2. In the rocks, the primary source of hydrocarbons is asphalt, which are lumps of organic matter.
3. If a rock formation is highly porous, it could hold a larger quantity of hydrocarbons.

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

Polity

Q.16) Consider the following statements:

1. The "procedure established by law" clause in Article 21 can be used to justify arbitrary detention by the police without any legal basis.
2. The Supreme Court has observed that the right against climate change is recognized under Articles 14 and 21 of the Indian Constitution.

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.17) Consider the following statements:

1. The practice of reserving judgments, while providing relief to overworked judges, often leads to prolonged delays in the judicial process.
2. Bharatiya Nagarik Suraksha Sanhita 2023, specifies a deadline of 45 days for judgments in criminal cases, extendable to three months in exceptional circumstances.

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

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

Acts & Policies

Q.18) With reference to the Right to Education Act (RTE) 2009, consider the following statements:

1. It guarantees free and compulsory education for children in India between the age group of 3-6 years.
2. It prohibits board exams for children until they complete elementary education.
3. It mandates that private schools reserve 25% of seats for children belonging to disadvantaged sections.

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.19) With reference to the Telecommunications Act, 2023, consider the following statements:

1. It introduced the concept of setting up multiple regulatory sandboxes (RS) to foster innovation within the telecom sector.
2. These sandboxes provide regulated access to network and customer resources for testing new products, services, processes, and business models.
3. Both Indian nationals and foreign entities are eligible to participate in these regulatory sandboxes.

How many of the statements given above are correct?

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

Q.20) With reference to the Digital Personal Data Protection Act 2023, consider the following statements:

1. It applies to the processing of digital personal data within India, regardless of where the data is physically stored.
2. It grants individuals rights such as accessing and erasing their data.
3. The Act only applies to the processing of digital personal data by Indian companies and does not cover foreign entities processing data of Indian citizens.

How many of the statements given above are correct?

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

Index & Reports

Q.21) Which one of the following has published the 'Household Consumption Expenditure Survey (HCES) 2022-23'?

- a) National Statistical Office
- b) Ministry of Finance
- c) Ministry of Housing and Urban Affairs
- d) NITI Aayog

Q.22) The ASER 2023 report is titled "Beyond Basics." What does this likely refer to?

- a) Advanced scientific concepts
- b) Vocational training skills
- c) Early childhood education
- d) Teacher training programs

International Relations/Organizations

Q.23) With reference to the Asian Development Bank (ADB), which of the following statement(s) is/are correct?

1. It aims to promote economic and social development in Asia and the Pacific.
2. India is the largest shareholder in the ADB.
3. Pakistan is not a member country of the ADB.

Select the correct answer using the codes give below:

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

Q.24) Which one of the following is NOT a primary function of the International Narcotics Control Board (INCB)?

- a) Monitoring and estimating genuine production, manufacture, international trade, and distribution of certain narcotic drugs and psychotropic substances.
- b) Assessing the medical and scientific needs for narcotic substances.
- c) Assisting governments in fulfilling their obligations under international drug control treaties.
- d) Investigating and prosecuting international drug trafficking organizations.

Q.25) The 'Vienna Convention on Diplomatic Relations' specifies the receiving state's responsibility for the safety of diplomatic posts and their personnel. This includes the responsibility to:

- a) Allow diplomatic agents to depart the receiving state whenever they desire.
- b) Provide financial assistance to diplomatic missions for their operational costs.
- c) Take all appropriate measures to prevent any attack on the embassy's premises or personnel.
- d) Allow diplomatic agents to freely interfere in the internal affairs of the receiving state.

Q.26) Consider the following statements:

- 1. India is one of the member countries of the Arctic Council.
- 2. One of the reasons for India's interest in the Arctic region is the opportunity to trade via the Northern Sea Route.
- 3. India aims to cooperate with Arctic countries in green energy and clean industries.
- 4. India's engagement with the Arctic began with the signing of the Svalbard Treaty in 1920.

How many of the statements given above are correct?

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

Q.27) Consider the following:

- 1. Trademarks
- 2. Copyrights
- 3. Geographical Indications
- 4. Industrial designs
- 5. Foreign investment policies

For how many of the above, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) sets minimum standards of protection?

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

Economy

Q.28) An increasing household debt along with decreasing net financial savings implies:

- a) Enhanced financial stability
- b) Economic growth acceleration
- c) Reduced consumer spending
- d) Increase in disposable income

Q.29) In the context of Startup, the term 'Funding Winters', refers to –

- a) A period of increased investor activity and readily available funding.
- b) A period of economic recession that leads to a decrease in investor confidence and available funding for startups.
- c) A specific government program designed to provide financial support to early-stage startups.
- d) A shift in investors focus towards more established companies with proven track records.

Q.30) Consider the following statements:

Statement-I: In the recent interim Budget, the government has consolidated capital allocation for the three-Armed Services based on similar expenditure items.

Statement-II: Consolidation is expected to expedite decision-making and ensure better utilization of the capital budget in the armed services.

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.31) A rise in U.S. interest rates can lead to:

- a) Increased foreign investment inflow into India.
- b) A weaker Indian Rupee compared to the U.S. Dollar.
- c) Lower borrowing costs for Indian businesses.
- d) Faster economic growth in India.

Q.32) A country experiences a decline in overall retail inflation but a simultaneous rise in food prices.

This situation suggests a rise in:

- a) Overall cost of living
- b) Spending power
- c) Production of food items
- d) Availability of manufactured goods

Q.33) Consider the following:

1. Manufacturing
2. Mining
3. Electricity
4. Agriculture

How many of the above sectors are included in the Index of Industrial Production (IIP) calculation?

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

Q.34) Which one of the following statements best describes the 'core inflation' and its relevance in economic policy formulation?

- a) Core inflation is a measure of inflation that includes all items in the consumer price index (CPI), including those with volatile prices such as food and energy, to provide a comprehensive overview of inflationary trends.
- b) Core inflation is the change in the costs of goods and services, including seasonal elements such as food and energy, and is primarily used to assess short-term inflationary rise and guide immediate fiscal policy adjustments.
- c) Core inflation is a measure of inflation that excludes items having volatile prices, such as fuel and food, from the price index being used, to assess the underlying trend of prices and guide long-term economic strategies.
- d) Core inflation represents the immediate impact of monetary policy measures on the price level of luxury goods and services, excluding necessities, to determine the effectiveness of central bank interventions.

Q.35) Consider the following statements:

1. The dedicated freight corridor is expected to increase carbon dioxide emissions, due to the increased number of freight trains.
2. The Eastern Dedicated Freight Corridor (EDFC) which extends from Punjab to Bihar, is fully operational.

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.36) Consider the following:

1. Narrowing Current Account Deficit (CAD)
2. Rise in Gross Domestic Product (GDP)
3. Depreciation of the Rupee

How many of the above are the likely outcomes for India when it experiences an increase in exports and a decrease in imports (trade surplus)?

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

Environment

Q.37) In which one of the following agricultural practices are trees integrated with agricultural crops to improve soil health, water management, and biodiversity, particularly in areas with limited rainfall?

- a) No-till farming
- b) Slash-and-burn agriculture
- c) Dryland agroforestry
- d) Hydroponics

Q.38) Consider the following statements:

1. Despite renewable energy targets, coal-fired plants remain a primary source of electricity in India.
2. Increased heat can negatively affect crop yields and the productivity of agricultural workers.
3. Thermal Energy Storage (TES) and Hydrogen Energy Storage (HES) are the most commercially viable forms of energy storage in India.

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

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

Q.39) Consider the following statements:

1. In India, agriculture is an important source of livelihood for women, particularly in rural areas.
2. An increase in extreme weather events is associated with increased gender-based violence.
3. An increase in PM2.5 levels indicates an improvement in respiratory health.

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.40) Consider the following statements:

1. Approved List of Models and Manufacturers of Solar Photovoltaic [PV] Modules' (ALMM list) comprises manufacturers whose solar PV modules are eligible for use in various government projects and schemes.
2. India's half of the imports demand for solar cells and modules come from the United States.
3. The Indian government has set a target of achieving 500 GW of installed capacity from non-fossil fuels by 2030.

How many of the statements given above are correct?

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

Q.41) Consider the following statements:

1. Ladakh is home to 97% indigenous tribes, with a lifestyle predominantly based on farming and animal rearing.
2. Ladakh is least affected by the climate change due to its high altitude.
3. National Action Plan on Climate Change (NAPCC) includes the National Mission for Sustaining the Himalayan Ecosystem (NMSHE), which is aimed at assessing and protecting the Himalayan region from climate change.

How many of the statements given above are correct?

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

Q.42) Consider the following statements:

1. Relocating wild animals disrupts both the original and the new ecosystems.
2. Rescue involves capturing animals and relocating them to completely different environments without considering their natural habitat or behavioral patterns.

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.43) Consider the following statements:

1. India has lost 90% of the area under its four biodiversity hotspots.
2. Compensatory Afforestation Levy (CAL) is a financial method that evaluates the current worth of forest land based on its expected future economic benefits, such as timber and ecosystem services.
3. The Supreme Court has recently banned tiger safaris in core areas of national parks and called for the formation of a committee to assess their viability in peripheral zones.

How many of the statements given above are correct?

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

Q.44) Ocean acidification, a consequence of increased atmospheric CO₂, disrupts coral reef ecosystems. Which one of the following aspects of coral life is primarily affected by ocean acidification?

- a) Coral reproduction
- b) Coral growth rate
- c) Coral feeding behavior
- d) Coral immune response

Q.45) Consider the following statements:

Statement-I: The aviation industry accounts for only 2.5% of global carbon emissions.

Statement-II: The carbon content of aviation fuel used within the aviation industry is comparatively lower than the fuel used in the vehicles.

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

Science & Technology

Q.46) Consider the following statements:

- 1. Insulin Index measures how carbohydrate-containing foods affect blood glucose levels post-meal.
- 2. Diets high in glycemic index (GI) and glycemic load (GL) are associated with an increased risk of developing type 2 diabetes.

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.47) Consider the following statements:

- 1. A genome refers to the complete set of genetic material present in an organism.
- 2. A gene is a specific sequence of DNA that contains the instructions for making a particular protein or functional RNA molecule.
- 3. Cells make proteins by transcribing the gene into messenger RNA (mRNA), which then guides the synthesis of the protein.

How many of statements given above are correct?

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

Q.48) Consider the following:

- 1. Extraction of gold and silver from their respective ores
- 2. Electroplating and the heat treatment of metals
- 3. Making insecticides

In how many of the above areas is 'sodium cyanide' find application?

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

Q.49) With reference to the National Centre for Disease Control (NCDC), how many of the following statements are correct?

1. It acts as the nodal agency for disease surveillance and outbreak response in India.
2. It monitors trends in antimicrobial resistance (AMR) and promotes responsible antibiotic use.
3. It functions under the administrative control of Indian Council of Medical Research (ICMR).

Select the correct answer using the codes given below:

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

Q.50) Consider the following statements:

1. Telemedicine can help in the reduction of carbon emission.
2. Teleconsultations increases the disparity in healthcare access between rural and urban populations.

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.51) Which one of the following best describes the 'Higgs boson's' main function in the particle physics?

- a) It mediates the strong nuclear force.
- b) It gives mass to other fundamental particles.
- c) It is a building block of protons and neutrons.
- d) It is responsible for radioactive decay.

Q.52) With reference to the Chimeric Antigen Receptor (CAR) T-cell therapy, consider the following statements:

1. It is a type of treatment that utilizes surgery to remove cancerous tissue.
2. T-cells are collected from the patient through a process called leukapheresis.
3. Segments of CAR are located both within and outside of cells, across the cell membrane.

How many of the statements given above are correct?

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

Q.53) Consider the following statements:

1. The United Nations Sustainable Development Goals (SDGs) have a target of eradicating malnutrition by 2030.
2. A significant factor in determining a child's risk of undernutrition is the mother's educational status.

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

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

Q.54) In which one of the following ways does PSLV Orbital Experimental Module-3 (POEM-3) contribute to reducing space debris?

- a) Through collecting and disposing of space debris
- b) By transforming into a satellite for long-term space exploration
- c) By de-orbiting and burning up in the earth's atmosphere after its mission
- d) Through repairing and servicing malfunctioning satellites

Q.55) Consider the following statements:

- 1. The Siachen Glacier is known as the world's second highest battlefield.
- 2. Operation Rakshak was a successful military operation undertaken by the Indian Army to seize control of the Siachen Glacier.

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.56) Consider the following statements:

- 1. A flat universe model implies that the space is two-dimensional, similar to a sheet of paper.
- 2. Lambda-Cold Dark Matter is one of the cosmological models that describes our universe's origin and evolution.
- 3. The cosmic microwave background (CMB) is considered one of the strongest pieces of evidence supporting the Big Bang theory.

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.57) Which one of the following statements best describes the term 'Cryogenics'?

- a) It is the study of how to achieve and maintain high temperatures for industrial combustion processes.
- b) It focuses on the development of refrigeration techniques that operate at temperatures just below the freezing point of water.
- c) It is primarily concerned with the study of biological organisms at temperatures slightly above freezing.
- d) It is the science that addresses the production and effects of very low temperatures.

Q.58) The term 'Doxing', seen in the news recently, refers to:

- a) The process of fixing documents online to ensure data privacy and prevent identity theft.
- b) A legal method of sharing someone's personal information with their consent for security purposes.
- c) The act of publicly revealing identifying information about someone online without their consent.
- d) The act of repairing or removing false personal information about individuals from the internet.

Q.59) Consider the following statements:

- 1. Parkinson's disease is a chronic neurodegenerative disorder that affects the central nervous system, primarily impacting movement.
- 2. Parkinson's disease is mainly characterized by a deficiency of Norepinephrine in the brain.

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 - (d) | 5 - (b) | 6 - (c) | 7 - (a) | 8 - (a) | 9 - (a) | 10 - (b) |
| 11 - (b) | 12 - (c) | 13 - (c) | 14 - (c) | 15 - (c) | 16 - (b) | 17 - (a) | 18 - (b) | 19 - (b) | 20 - (b) |
| 21 - (a) | 22 - (b) | 23 - (b) | 24 - (d) | 25 - (c) | 26 - (c) | 27 - (c) | 28 - (c) | 29 - (b) | 30 - (a) |
| 31 - (b) | 32 - (a) | 33 - (c) | 34 - (c) | 35 - (b) | 36 - (b) | 37 - (c) | 38 - (b) | 39 - (a) | 40 - (b) |
| 41 - (b) | 42 - (a) | 43 - (b) | 44 - (b) | 45 - (c) | 46 - (b) | 47 - (c) | 48 - (c) | 49 - (b) | 50 - (a) |
| 51 - (b) | 52 - (b) | 53 - (c) | 54 - (c) | 55 - (d) | 56 - (b) | 57 - (d) | 58 - (c) | 59 - (a) | |

Answers & Explanations

Art & Culture and Medieval History

1. Correct Answer is (A)

- Ugadi: Ugadi is the New Year's Day festival celebrated in the Indian states of Telangana, Andhra Pradesh, and Karnataka.
- Gudi Padwa: Gudi Padwa is a springtime festival that marks the traditional New Year for Marathi and Konkani Hindus, primarily celebrated in the state of Maharashtra, India.
- Puthandu: Puthandu, also known as Tamil New Year, is the first day of the Tamil calendar, typically falling on April 13th or 14th. It is celebrated in Tamil Nadu, Puducherry, and Sri Lanka, as well as by Tamil communities worldwide.

Source: [The Hindu](#)

2. Correct Answer is (B)

- Statement 1 is incorrect. Swargadeo Sukapha, also known as Chaolung Siu-Ka-Pha, was the founder of the Ahom dynasty in present-day Assam, India. He established the dynasty in 1228, ruling until his death in 1268. He came from China.
- Statements 2 and 3 are correct. The Ahoms, who ruled Assam for nearly 600 years, significantly influenced Assamese culture, language, and architecture. They brought new military strategies, promoted religious harmony, and encouraged cultural exchanges, leaving a lasting impact on the region. The Battle of Saraighat was fought in 1671 between the Ahom Kingdom, led by Lachit Borphukan, and the Mughal Empire. The Ahoms emerged victorious, which is considered a significant event in Assamese history as it halted the Mughal expansion into Assam.

Source: [The Hindu](#)

3. Correct Answer is (D)

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- Statements 1 and 2 are incorrect. The Thrissur Pooram Festival is celebrated in Thrissur, Kerala. Thrissur Pooram Festival is known for its spectacular fireworks display, along with other cultural and religious events. The main events include the grand procession of caparisoned elephants, traditional percussion ensembles, and the "Kudamattam" ceremony involving the exchange of colorful parasols.

Source: [The Hindu](#)

Modern Indian History

4. Correct Answer is (D)

- Statements 1 and 2 are incorrect. Mahatma Gandhi advocated for village self-reliance and decentralization of power through his concept of Gram Swaraj (village self-governance). However, B. R. Ambedkar held a contrasting view on village life. He believed that villages in India were marked by social and economic inequalities, particularly due to the prevalence of the caste system. Ambedkar encouraged Dalits to move away from villages and embrace urbanization and industrialization as a means to escape the rigid caste system. He believed that cities offered better opportunities for education, employment, and social mobility, allowing Dalits to overcome the oppressive social structure in villages.

Source: [The Hindu](#)

Geography

5. Correct Answer is (B)

- A total solar eclipse occurs when the Moon passes between the Earth and the Sun, casting its shadow on a portion of the Earth's surface. The Moon's position perfectly aligns with the Sun, blocking the Sun's light and casting darkness on the area within the Moon's shadow, known as the path of totality.

Source: [The Hindu](#)

6. Correct Answer is (C)

- The Strait of Hormuz is a narrow and strategically significant waterway located between the Gulf of Oman, Iran, and the Persian Gulf, shared by Oman and Iran. It is a crucial maritime route for the global oil industry, as a large portion of the world's oil supply, primarily from the Middle East, passes through this strait. The strait's strategic importance and geopolitical sensitivities make it a critical area for international trade and global security.

Source: [The Times of India](#)

7. Correct Answer is (A)

- The Ural Mountains form a natural boundary between Eastern Europe and Western Asia. They stretch from the Kara Sea in the north to the Kazakh steppes in the south, passing through Russia and Kazakhstan.

Source: [The Hindu](#)

8. Correct Answer is (A)

- ENSO is measured by two indices- Oceanic Niño Index and Southern Oscillation Index. Oceanic Niño Index (ONI) is the primary indicator for monitoring the ocean part of El Niño-Southern Oscillation, or "ENSO". ONI is a widely used index that primarily measures sea surface temperature anomalies in the equatorial Pacific Ocean. Southern Oscillation Index (SOI) is the primary indicator for monitoring the

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atmospheric part of ENSO. The ONI tracks the running 3-month average sea surface temperatures in the east-central tropical Pacific between 120°-170°W, near the International Dateline. It also determines whether they are warmer or cooler than average.

Source: [Forum IAS](#)

9. Correct Answer is (A)

- The McMahon Line is a disputed boundary that forms part of the Line of Actual Control (LAC) between India and China in the Eastern Sector. It stretches from Bhutan in the west to Myanmar in the east, covering the present Indian state of Arunachal Pradesh.

Source: [The Hindu](#)

10. Correct Answer is (B)

- Statement 1 is incorrect. The Democratic Republic of Congo (DRC) is the world's largest producer of cobalt.
- Statement 2 is correct. Copper is used in power cables, wind turbines, electric vehicles and solar panels, and is the key material for energy transition while cobalt is a key car-battery metal.

Source: [The Hindu](#)

11. Correct Answer is (B)

- West Asian countries include: Armenia, Bahrain, Cyprus, Georgia, Iraq, Iran, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, State of Palestine, Syria, United Arab Emirates and Yemen.

Source: [The Hindu](#)

12. Correct Answer is (C)

- Statements 1 and 3 are correct. Ecuador, officially the Republic of Ecuador, is a country in northwestern South America, bordered by Colombia on the north, Peru on the east and south, and the Pacific Ocean to the west. Ecuador is named after the Equator, which runs through the middle of the country.
- Statement 2 is incorrect. Ecuador borders the Pacific Ocean to the west.

Source: [The Hindu](#)

13. Correct Answer is (C)

- The Golan Heights is a plateau that borders the Sea of Galilee to the west. This body of water, also known as Lake Tiberias or Lake Kinneret, is the largest freshwater lake in Israel and provides a significant water source for the region. The Sea of Galilee is an important source of water for Israel and has significant religious and historical importance.

Source: [The Hindu](#)

14. Correct Answer is (C)

- La Niña is a climate phenomenon characterized by the cooling of sea surface temperatures in the central and eastern equatorial Pacific Ocean. This phenomenon can lead to changes in global weather patterns, particularly in Southeast Asia. During a La Niña event, the warmer waters in the western Pacific Ocean, around Southeast Asia, can cause an increase in precipitation, leading to heavy rainfall and flooding in the region. These adverse weather conditions can disrupt agricultural activities, leading to crop damage, reduced yields, and increased pest and disease outbreaks. In general, La Niña conditions tend to bring increased rainfall to certain regions, such as Southeast Asia and Australia,

while causing drier conditions in other areas, such as the southwestern United States and parts of South America.

Source: [The Hindu](#)

15. Correct Answer is (C)

- Statements 1 and 3 are correct. Hydrocarbons are organic compounds consisting of hydrogen and carbon atoms, and they exist in various forms, including natural gas, coal, crude oil, and petroleum. These resources are typically found in subterranean rock formations. Porous rock formations, such as sandstone or limestone, can hold larger quantities of hydrocarbons because the pores within these rocks allow fluids to accumulate and move through the rock, creating reservoirs for hydrocarbon storage. The permeability of the rock, which is the ability of fluids to flow through the interconnected pores, is also important for hydrocarbon extraction. The more permeable a rock is, more easily the hydrocarbons will flow through it.
- Statement 2 is incorrect. In the rocks, the primary source of hydrocarbons is kerogen, which are lumps of organic matter. Kerogen is a complex organic material formed from the decomposed remains of dead plants and animals that settled on the ocean floor or lake beds millions of years ago. Under high pressure and temperature over time, kerogen transforms into various hydrocarbons we utilize today. So, kerogen acts as the precursor material for the oil and gas we extract from rock formations.

Source: [The Hindu](#)

Polity

16. Correct Answer is (B)

- Statement 1 is incorrect. The "procedure established by law" clause in Article 21 of the Indian Constitution ensures that a person's right to life and personal liberty can only be restricted if there is a legal procedure in place. It does not permit arbitrary detention by the police without any legal basis. Instead, it protects citizens from such actions by requiring any limitations on fundamental rights to follow established legal processes.
- Statement 2 is correct. The Supreme Court of India recently recognized the right against adverse effects of climate change as an aspect of the fundamental rights guaranteed under Articles 14 (right to equality) and 21 (right to life) of the Indian Constitution.

Source: [The Hindu](#)

17. Correct Answer is (A)

- Statement 1 is correct. The practice of reserving judgments leads to delays in the judicial process. This is a recognized problem, and there have been instances where the Supreme Court of India has expressed concern over the unreasonable time taken for the pronouncement of judgments without any exceptional and unusual reasons, as it may affect the confidence of the public in the judiciary.
- Statement 2 is incorrect. The Bharatiya Nagarik Suraksha Sanhita, 2023, proposes a deadline for delivering a verdict within 30 days after the conclusion of arguments, which can be extended to 45 days for specific reasons.

Source: [The Times of India](#)

Acts & Policies

18. Correct Answer is (B)

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- Statement 1 is incorrect. The Right to Education Act (RTE) 2009 guarantees free and compulsory education for children in India between the age group of 6-14 years.
- Statements 2 and 3 are correct. The RTE Act prohibits schools from conducting board exams or any other type of examination that may lead to a child being held back or expelled from school until they have completed elementary education (up to Class 8). The RTE Act requires private, unaided schools to reserve at least 25% of their entry-level seats for children from economically weaker sections and disadvantaged groups, with the government reimbursing these schools for the costs involved.

Source: [The Hindu](#)

19. Correct Answer is (B)

- Statements 1 and 2 are correct. The Telecommunications Act, 2023, empowers the government to establish multiple regulatory sandboxes (RS) to promote innovation in the telecom sector. Regulatory sandboxes under the Act are intended to allow telecom companies to test new technologies, services, and business models in a controlled environment with regulatory supervision.
- Statement 3 is incorrect. As of now and recommendations surrounding the Telecommunications Act, 2023, only Indian nationals or entities are likely to be eligible to participate in these regulatory sandboxes. This is subject to change based on final regulations.

Source: [The Hindu](#)

20. Correct Answer is (B)

- Statements 1 and 2 are correct. The Act applies to digital personal data processing within India and also extends to data collected offline but later digitized. It also covers data processed outside India if it involves providing goods or services to individuals in India. The Act grants rights to individuals, including the right to access and erase their data, along with the rights to consent, correction, data portability, and grievance redressal.
- Statement 3 is incorrect. The Act applies to both Indian and foreign entities processing digital personal data within India or providing goods and services to individuals in India. The Act categorizes entities into Data Fiduciaries (DFs) and Significant Data Fiduciaries (SDFs), with SDFs subject to additional obligations. Both Indian and foreign entities may fall under these categories based on their data processing activities, scale of operations, and potential for causing harm to individuals.

Source: [The Hindu](#)

Index & Reports

21. Correct Answer is (A)

- The Household Consumption Expenditure Survey (HCES) is conducted by the National Statistical Office (NSO) every 5 years. It is designed to collect information on the consumption of goods and services by households in India, providing valuable insights into the spending patterns and living standards across the country.

Source: [The Hindu](#)

22. Correct Answer is (B)

- The ASER reports typically focus on foundational literacy and numeracy skills. "Beyond Basics" suggests the report goes beyond these fundamentals. Vocational training skills align well with "Beyond Basics" as they represent practical skills that go beyond simply reading and writing. The

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ASER 2023 report, titled "Beyond Basics," likely explores how well these 14–18-year-olds are prepared to apply their knowledge and enter the workforce.

Source: [The Hindu](#)

International Relations/Organizations

23. Correct Answer is (B)

- Statement 1 is correct. The Asian Development Bank (ADB) is a regional development bank that focuses on reducing poverty and promoting sustainable economic growth in Asia and the Pacific.
- Statements 2 and 3 are incorrect. The largest shareholders of the Asian Development Bank (ADB) are Japan and the United States, with 15.6% of total shares each. Pakistan is a founding member of the Asian Development Bank (ADB).

Source: [The Hindu](#)

24. Correct Answer is (D)

- Investigating and prosecuting international drug trafficking organizations is not a primary function of the INCB. This responsibility typically falls under the purview of national law enforcement agencies and international organizations such as the International Criminal Police Organization (INTERPOL) and the United Nations Office on Drugs and Crime (UNODC). INCB was established in 1968. This board is the independent and quasi-judicial monitoring body for the implementation of the United Nations international drug control conventions. It consists of 13 members who are elected by the Economic and Social Council. The members serve in their personal capacity and are not government representatives.

Source: [Forum IAS](#)

25. Correct Answer is (C)

- The Vienna Convention on Diplomatic Relations is an international treaty that sets out the rules and guidelines for diplomatic interactions between countries. One important aspect of this treaty is the obligation of the host country (receiving state) to ensure the safety and security of diplomatic missions (embassies, consulates) and their personnel (diplomats, staff).

Source: [The Hindu](#)

26. Correct Answer is (C)

- Statement 1 is incorrect. India is not a member country of the Arctic Council. However, India has observer status in the Arctic Council since 2013, along with other countries like China, Japan, and South Korea.
- Statements 2, 3 and 4 are correct. The Northern Sea Route, which connects the Atlantic and Pacific Oceans along Russia's northern coast, offers significant potential as a shipping route. With climate change causing Arctic Sea ice to melt, this route may become more accessible, reducing the time and costs associated with shipping between Europe and Asia. This presents opportunities for countries like India to explore new trading possibilities. India's engagement with the Arctic region extends beyond trade and economic interests. India has expressed its commitment to working with Arctic countries to address climate change, promote clean energy, and collaborate on sustainable development. India's Arctic Policy also emphasizes scientific research, environmental protection, and international cooperation in the region. India's formal engagement with the Arctic can be traced back to the signing of the Svalbard Treaty in 1920, which granted India access to the resources and scientific research opportunities in the Svalbard archipelago in the Arctic Ocean. Moreover, India

launched its first Arctic research mission in 2007 and established an Arctic research base in 2008, becoming the only developing country besides China to do so.

Source: [The Hindu](#)

27. Correct Answer is (C)

- TRIPS is an international agreement administered by the World Trade Organization (WTO) that establishes basic standards for the protection and enforcement of intellectual property rights. It sets minimum standards of protection for Trademarks, Copyrights, Geographical Indications, Industrial Designs among others. Foreign investment policies, however, are not directly covered under the TRIPS agreement.

Source: [The Hindu](#)

Economy

28. Correct Answer is (C)

- When household debt increases, it indicates that people are borrowing more money, possibly due to declining income or rising expenses. This increased borrowing can result in a higher proportion of income being allocated to debt repayment, leaving less disposable income for other purposes. Decreasing net financial savings suggests that people are either saving less or dipping into their existing savings, which could be due to financial strains or increased expenses. Together, these trends can lead to reduced consumer spending, as people have less disposable income and may need to prioritize debt repayment and savings over discretionary spending. This reduction in consumer spending can have broader implications for the economy, as it may lead to slower growth in sectors that rely on consumer demand.

Source: [The Hindu](#)

29. Correct Answer is (B)

- Funding Winters refers to a period characterized by a decline in venture capital investment and overall funding opportunities for startups. During this time, investors tend to be more cautious with their investments due to economic uncertainty or other factors that may affect the startup ecosystem. Consequently, it becomes more challenging for early-stage startups to secure the necessary funding for their growth and development. The duration of a funding winter is unpredictable. It may last for a long time depending on the multiple factors acting upon it. It can take place due to geopolitical unrest, or monetary policies and financial irregularities in a country.

Source: [Forum IAS](#)

30. Correct Answer is (A)

- Statement-I is correct. In the recent interim Budget, the government has decided to consolidate capital allocation for the three-Armed Services based on similar expenditure items, such as land, aircraft and aeroengines, and heavy and medium vehicles.
- Statement-II is correct. This new mechanism is expected to expedite decision-making and ensure better utilization of the capital budget. It also aims to bring financial management flexibility, allowing the Ministry of Defence (MoD) to reappropriate funds among the services based on inter-Service priorities.
- Hence, Statement-II is a correct explanation for Statement-I.

Source: [The Hindu](#)

31. Correct Answer is (B)

- When the U.S. interest rates rise, it can lead to a stronger U.S. Dollar compared to other currencies, including the Indian Rupee. This happens because higher interest rates attract investors to park their money in U.S. financial instruments, thereby increasing demand for the U.S. Dollar.

Source: [The Hindu](#)

32. Correct Answer is (A)

- When a country experiences a decline in overall retail inflation but a simultaneous rise in food prices, it suggests that the cost of living is increasing, especially for the average consumer. This is because a significant portion of an individual's income is typically spent on food, and a rise in food prices directly affects their purchasing power and financial well-being.

Source: [The Hindu](#)

33. Correct Answer is (C)

- Agriculture is not included in the IIP calculation, as it falls outside the scope of industrial production. The IIP is an index that measures the growth of various industrial sectors in an economy and is used to track industrial performance and economic growth over time.

Source: [The Hindu](#)

34. Correct Answer is (C)

- Core inflation is an essential metric that policymakers use to understand the fundamental drivers of inflation by removing the effects of temporary price fluctuations. By excluding volatile items like food and energy, core inflation provides a more stable measure of inflation, helping policymakers design and implement appropriate economic strategies for sustainable growth and price stability in the long term.

Source: [The Hindu](#)

35. Correct Answer is (B)

- Statement 1 is incorrect. The dedicated freight corridor is expected to decrease carbon dioxide emissions in the long run. This is because Dedicated freight corridors are designed for faster and more efficient movement of goods trains. This reduces traffic congestion on regular passenger lines, leading to fewer delays and improved fuel efficiency. Additionally, dedicated corridors allow for the use of electric locomotives, further reducing reliance on diesel and its associated emissions.
- Statement 2 is correct. The Eastern Dedicated Freight Corridor (EDFC) stretches 1,337 km from Ludhiana, Punjab to Sonnagar, Bihar and is fully operational. The Western Dedicated Freight Corridor (WDFC) extends 1,506 km from Jawaharlal Nehru Port Terminal, Maharashtra to Dadri, Uttar Pradesh, with 88% operational. Both EDFC and WDFC are operated by the Dedicated Freight Corridor Corporation of India Ltd. (DFCCIL).

Source: [The Hindu](#)

36. Correct Answer is (B)

- Narrowing Current Account Deficit (CAD): An increase in exports and a decrease in imports contribute to narrowing the current account deficit by improving the trade balance. This occurs because exports bring in foreign currency while imports require domestic currency, thus reducing the deficit in the balance of payments.
- Rise in Gross Domestic Product (GDP): The increase in exports reflects higher economic activity and production within the country, which can lead to a rise in GDP. Exports contribute positively to GDP

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growth by generating income and employment opportunities, stimulating investment, and enhancing overall economic performance.

- Appreciation of the Rupee: A rise in exports and a decrease in imports can lead to an appreciation of the domestic currency due to increased demand for it in international markets.

Source: [The Hindu](#)

Environment

37. Correct Answer is (C)

- In Dryland agroforestry, trees are integrated with agricultural activities to improve soil health, water management, and biodiversity, particularly in areas with limited rainfall. Dryland agroforestry is a land management system that combines the cultivation of trees with agricultural crops or livestock in arid and semi-arid regions. This approach helps to minimize soil erosion, enhance soil fertility, and improve water availability by reducing evaporation and increasing infiltration. Trees in agroforestry systems can also provide shade, shelter, and food for both humans and animals, leading to increased biodiversity.

Source: [The Hindu](#)

38. Correct Answer is (B)

- Statements 1 and 2 are correct. Despite ambitious renewable energy targets, coal-fired plants continue to be a primary source of electricity in India due to their ability to meet both peak and off-peak demands. Higher temperatures can adversely impact crop yields and reduce the productivity of agricultural workers, among other socio-economic and environmental challenges.
- Statement 3 is incorrect. Battery-based storage and pumped hydro storage (PHS) are the most commercially viable forms of energy storage in India, but they are affected by water shortages during heatwaves.

Source: [The Hindu](#)

39. Correct Answer is (A)

- Statement 1 and 2 are correct. Agriculture plays a significant role in providing employment and income for women in India, especially in rural regions. Women are involved in various agricultural activities such as sowing, weeding, and harvesting, contributing substantially to the agricultural sector. Research has shown that climate-related disasters and extreme weather events can exacerbate gender-based violence. Factors such as displacement, economic stress, and disruption of social networks contribute to increased vulnerability and higher rates of violence against women.
- Statement 3 is incorrect. PM2.5 refers to fine particulate matter with a diameter of 2.5 micrometers or less. An increase in PM2.5 levels leads to deteriorated air quality, which has adverse effects on respiratory health. Higher PM2.5 concentrations are associated with respiratory issues, such as asthma, bronchitis, and other lung-related problems.

Source: [The Hindu](#)

40. Correct Answer is (B)

- Statements 1 and 3 are correct. The ALMM list is a directory of solar PV models and manufacturers that meet specific quality and performance criteria, making them eligible for government-backed solar power projects in India. India has committed to an ambitious goal of reaching 500 GW of installed capacity from non-fossil fuel sources by 2030 as part of its efforts to tackle climate change and transition to cleaner energy sources.

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- Statement 2 is incorrect. India heavily relies on imports to meet its demand for solar cells and modules, with China and Vietnam being the primary suppliers.

Source: [The Hindu](#)

41. Correct Answer is (B)

- Statements 1 and 3 are correct. Ladakh is home to 97% indigenous tribes, many of whom lead simple pastoral lives and depend on farming and animal rearing for a livelihood. The NAPCC includes eight core missions, and one of them is the NMSHE, which focuses on the conservation of biodiversity, sustainable resource use, and building resilience to climate change in the Himalayan region, including Ladakh.
- Statement 2 is incorrect. Ladakh, like many other regions, is affected by climate change despite its high altitude. The region is witnessing the impacts of climate change, including rising temperatures, increased frequency of extreme weather events, receding glaciers, and the threat of glacial lake outburst floods (GLOFs).

Source: [The Hindu](#)

42. Correct Answer is (A)

- Statement 1 is correct. Relocating wild animals can lead to imbalances in both ecosystems, impacting food chains, species interactions, and overall ecosystem health.
- Statement 2 is incorrect. Proper animal rescue should involve assessing the animal's natural habitat, dietary needs, and behavior patterns. Rescuing and relocating animals should prioritize environments that closely resemble their natural habitats and can meet their needs. In some cases, relocation may be necessary for the animal's well-being or survival, but responsible rescue efforts aim to minimize the negative impact of relocation on the animal and the ecosystems involved.

Source: [The Hindu](#)

43. Correct Answer is (B)

- Statements 1 and 3 are correct. The International Union for Conservation of Nature's Red List of Threatened Species monitors 1,212 animal species in India. In 2021, it found that 12% of them are endangered. According to a report of the Centre for Science and Environment in 2021, India has lost 90% of the area under its four biodiversity hotspots. The Supreme Court has recently banned tiger safaris in core areas of national parks and called for the formation of a committee to assess their viability in peripheral zones. It also disagreed with the 2019 guidelines of the National Tiger Conservation Authority permitting a tiger safari on the lines of a zoo in a national park. The court stressed that tigers should be sourced from the same landscape as where the safari is being conducted and not outside the tiger reserve.
- Statement 2 is incorrect. Compensatory Afforestation Levy is a form of replacement cost imposed on those who divert forest land for non-forestry purposes. The primary aim of this levy is to compensate for the forest area lost by promoting afforestation activities elsewhere. Whereas, Net Present Value (NPV) is a financial method that evaluates the current worth of forest land based on its expected future economic benefits, such as timber, non-timber forest products, and other ecosystem services. It takes into account the time value of money and future cash flows associated with the forest resources.

Source: [The Hindu](#)

44. Correct Answer is (B)

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- Ocean acidification occurs when excess atmospheric CO₂ dissolves in seawater, leading to a decrease in pH levels. This change in water chemistry affects the ability of corals to build their calcium carbonate skeletons, which are essential for their structure and support. As acidification increases, the availability of carbonate ions (which corals use to build their skeletons) decreases, hindering the corals' ability to grow and maintain their skeletons. Consequently, the overall growth rate of corals is negatively impacted, and the reef ecosystem's ability to keep up with natural erosion and disturbances is diminished. While other aspects, such as reproduction, feeding behavior, and immune response, may also be affected by ocean acidification indirectly, the primary impact is on the growth rate of coral skeletons.

Source: [The Hindu](#)

45. Correct Answer is (C)

- Statement-I is correct. According to various reports, including the International Civil Aviation Organization (ICAO), aviation accounts for approximately 2-3% of global carbon emissions.
- Statement-II is incorrect. Jet fuel, the primary fuel source for airplanes, is a fossil fuel with a high carbon content. The low percentage is due to the fact that only about 10% of the world's population flies regularly.
- **Note:** Even though aviation contributes a relatively small portion of global emissions, its impact is significant due to several factors: High Altitude Emissions: Airplane emissions occur at high altitudes, where they can have a more substantial warming effect compared to ground-level emissions and Contrails: Contrails, also known as vapor trails, are formed by water vapor from airplane exhaust condensing in the cold air at high altitudes. These contrails can trap heat and contribute to warming.

Source: [The Hindu](#)

Science & Technology

46. Correct Answer is (B)

- Statement 1 is incorrect. Glycemic index (GI) measures how carbohydrate-containing foods affect blood glucose levels post-meal, with higher values indicating greater blood sugar spikes. Glycemic load (GL) combines the quality and quantity of carbohydrates in food, calculated as the product of GI and the amount of carbohydrates in a serving.
- Statement 2 is correct. An international study published in the Lancet found that diets high in GI and GL are associated with an increased risk of developing type 2 diabetes.

Source: [The Hindu](#)

47. Correct Answer is (C)

- Statements 1, 2 and 3 are correct. The genome is the entirety of an organism's genetic material, which includes all the DNA (or RNA in some viruses) that carries the instructions for the organism's development, growth, reproduction, and other essential functions. A gene is a distinct segment of DNA that codes for a specific protein or functional RNA molecule. Genes serve as the basic functional units of heredity, and their expression determines an organism's characteristics. The process of protein synthesis involves two main steps: transcription and translation. In transcription, the DNA sequence of a gene is copied into a messenger RNA (mRNA) molecule. This mRNA molecule then acts as a template during the translation process, guiding the assembly of amino acids to form the corresponding protein.

Source: [The Hindu](#)

48. Correct Answer is (C)

- Sodium cyanide (NaCN) is a chemical compound that has multiple applications in various industries. It is used in the extraction of gold and silver from their respective ores, in electroplating and the heat treatment of metals, and in making insecticides, dyes, pigments, and bulk drugs, etc.

Source: [The Hindu](#)

49. Correct Answer is (B)

- Statements 1 and 2 are correct. The National Centre for Disease Control (NCDC) serves as the primary agency responsible for disease surveillance and coordinating outbreak response efforts in India. NCDC plays a crucial role in monitoring antimicrobial resistance (AMR) trends and developing strategies to promote the responsible use of antibiotics to combat the growing threat of antibiotic resistance.
- Statement 3 is incorrect. The NCDC functions under the administrative control of the Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India.

Source: [The Hindu](#)

50. Correct Answer is (A)

- Statement 1 is correct. Telemedicine allows patients to consult with doctors remotely, reducing the need for transportation to and from healthcare facilities. This reduction in travel can lead to decreased carbon emissions, contributing positively to the environment.
- Statement 2 is incorrect. Telemedicine and teleconsultations can help bridge the gap in healthcare access between rural populations and urban-based doctors. By allowing remote consultations and access to specialists, telemedicine can improve healthcare equity by bringing medical services to underserved areas, reducing the disparity between urban and rural populations.

Source: [The Hindu](#)

51. Correct Answer is (B)

- The Higgs boson is an elementary particle in the Standard Model of particle physics. Its primary function is to give mass to other fundamental particles through its interaction with the Higgs field. This interaction results in the fundamental particles acquiring their characteristic masses, with different particles interacting with the Higgs field to varying degrees.

Source: [The Hindu](#)

52. Correct Answer is (B)

- Statement 1 is incorrect. CAR T-cell therapy is not a surgical treatment but a type of immunotherapy where a patient's T cells are genetically modified in the laboratory to attack cancer cells.
- Statements 2 and 3 are correct. In CAR T-cell therapy, T-cells are collected from the patient's blood through a process called leukapheresis, where white blood cells are separated from other blood components. Segments of CAR are located both within and outside of cells, spanning across the cell membrane. The external segment is responsible for binding to antigens on cancer cells, while the internal segment transmits signals that activate the T cells.

Source: [The Hindu](#)

53. Correct Answer is (C)

- Statements 1 and 2 are correct. The UN SDGs, specifically SDG 2 (Zero Hunger), aim to end all forms of malnutrition by 2030, including undernutrition, micronutrient deficiencies, and overweight/obesity. A mother's educational status can influence her knowledge about proper

nutrition and childcare practices, which in turn affects the child's nutritional status. Studies have shown that children of mothers with higher education levels tend to have better nutritional outcomes compared to those with lower education levels.

Source: [The Hindu](#)

54. Correct Answer is (C)

- PSLV Orbital Experimental Module-3 (POEM-3) was the fourth stage of a PSLV rocket that was converted into a functional platform after deploying its satellites. Traditionally, these rocket stages end up as space debris after they complete their primary function. POEM-3, however, was designed to re-enter Earth's atmosphere at the end of its mission. This controlled re-entry resulted in the module burning up completely, eliminating the possibility of it adding to the growing problem of space debris.

Source: [The Hindu](#)

55. Correct Answer is (D)

- Statements 1 and 2 are incorrect. The Siachen Glacier is known as the world's highest battlefield. Operation Meghdoot was a successful military operation undertaken by the Indian Army to seize control of the Siachen Glacier in Ladakh, India.

Source: [The Times of India](#)

56. Correct Answer is (B)

- Statement 1 is incorrect. A flat universe model refers to the curvature of spacetime, not the number of dimensions. This model proposes that while the universe will expand forever, the rate of expansion will gradually decrease due to gravitational forces.
- Statements 2 and 3 are correct. Lambda-Cold Dark Matter (Λ CDM) is the most widely accepted cosmological model. It incorporates dark matter, dark energy, and cold dark matter to explain the universe's origin, expansion, and structure formation. The Cosmic Microwave Background Radiation (CMB) is faint radiation filling the universe, believed to be a leftover afterglow from the Big Bang. The CMB's properties strongly support the Big Bang theory, as its uniformity and temperature fluctuations align with predictions from the early hot, dense universe.

Source: [The Hindu](#)

57. Correct Answer is (D)

- Cryogenics is the branch of physics and engineering that studies the behavior of materials and systems at extremely low temperatures, typically below -150°C (-238°F) or 123K (Kelvin). This field focuses on understanding how these low temperatures affect various substances and their properties and developing methods to produce, maintain, and apply such low temperatures in practical applications. While refrigeration involves cooling materials to temperatures below the freezing point of water (0°C or 273K), cryogenics focuses on much lower temperatures beyond what refrigeration typically achieves.

Source: [The Hindu](#)

58. Correct Answer is (C)

- Doxing (sometimes spelled as "doxxing") is a malicious practice where an individual's personal information, such as their name, address, phone number, or other private details, is shared online without their consent. This can result in harassment, threats, or other negative consequences for the

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targeted person. Doxing is often associated with cyberbullying and online vigilantism, and it raises significant concerns regarding privacy and online safety.

Source: [The Hindu](#)

59. Correct Answer is (A)

- Statement 1 is correct. Parkinson's disease is a progressive disorder of the nervous system that affects movement, often causing tremors, stiffness, and difficulty with balance and coordination. It is a chronic condition, which means it persists over a long period, and neurodegenerative, meaning it involves the gradual degeneration of neurons in the brain.
- Statement 2 is incorrect. Parkinson's disease is primarily characterized by a deficiency of dopamine, not norepinephrine, in the brain. Dopamine is a neurotransmitter responsible for transmitting signals between nerve cells in the brain, and its depletion results in the motor symptoms observed in Parkinson's patients.

Source: [The Hindu](#)