

DAILY MCQs COMPILATION

with

EXPLANATIONS

March 2023

NEXT IAS



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HISTORY, ART & CULTURE

1. With reference to the Adopt a Heritage Scheme, consider the following statements:
 1. It is an initiative of the Ministry of Tourism to allow public and private sector enterprises to acquire top heritage areas of India and enhance tourism activities.
 2. The scheme was launched on World Tourism Day.Which of the above given statements is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
2. Consider the following statements:
 1. Bhunga houses of Kutch are the unique type of cubic shaped cemented houses.
 2. Bhunga houses are commonly called 'Architecture without Architect'.
 3. The 200 years old reworked design of bhungas stood very firm during the earthquake of 2001 in Kutch.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
3. Consider the following statements:
 1. Nanakshahi Sammat 555 is a calendar system that was introduced by the Shiromani Gurdwara Parbandhak Committee (SGPC) in 2003.
 2. It is named after the founder of the Sikh religion, Guru Nanak Dev Ji to mark his 500th birth anniversary.Choose the correct answer from options given below:
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
4. Consider the following statements:
 1. Carnatic Sangeet has developed in the Indian states of Tamil Nadu, Odisha, and Andhra Pradesh.
 2. Purandardas is considered to be the father of Carnatic music.
 3. Carnatic music is based upon a complex system of Ragam (Raga) and Thalam (Tala).
 4. Ragam is the rhythmic foundation of Carnatic music.Which of the statements given above are correct?
 - (a) 1, 2 and 3 only
 - (b) 2, 3 and 4 only
 - (c) 2 and 3 only
 - (d) 1,2,3 and 4
5. With reference to Sharda Peeth temple consider the following statements:
 1. It is located in Neelum Valley in Pakistan Occupied Kashmir (PoK).
 2. It is considered to be the abode of Hindu Goddess Durga.
 3. Close to the temple, the ruins of Taxila university can be found.
 4. Scholars from all over the country used to come here in search of scriptures and spiritual knowledge.Which of the statements given above are correct?
 - (a) 1, 2 and 3 only
 - (b) 2, 3 and 4 only
 - (c) 1 and 4 only
 - (d) 1, 2, 3 and 4

EXPLANATIONS

1. (c)
Statements 1 and 2 are correct: The 'Adopt a Heritage: ApniDharohar, ApniPehchaan' scheme is an initiative of the Ministry of Tourism, in collaboration with the Ministry of Culture and the Archaeological Survey of India. The scheme was **launched on World Tourism Day, i.e., 27 September 2017**. The Adopt a Heritage Scheme **allowed public and private sector enterprises to acquire top heritage areas of India and enhance tourism activities there**. The sites/monuments are selected on the basis of tourist footfall and visibility and can be adopted by private and public sector companies and individuals — known as Monument Mitras— for an initial period of five years.
2. (b)
Statement 1 is not correct. Bhunga houses are traditional houses, **a unique type of round mud hut walled with thatched roof**.
Statement 2 is correct These houses are commonly called 'Architecture without Architect' because of the superior architectural knowledge gained by the locals through the years.
Statement 3 is correct The reworked design of bhungas that is about **200 years old stood very firm during the earthquake of 2001** when it was very close to the epicenter.
3. (c)
Statements 1 is correct: Nanakshahi Sammat 555 is a calendar system that was introduced by the Shiromani Gurdwara Parbandhak Committee (SGPC) in 2003.
Statement 2 is correct: It is named after the founder of the Sikh religion, Guru Nanak Dev Ji to mark his 500th birth anniversary. It is a tropical solar calendar used in Sikhism.
The Nanakshahi calendar is used by Sikhs around the world to mark important dates and festivals in the Sikh calendar, including the birth anniversaries of the ten Sikh Gurus, the martyrdom of Guru Arjan Dev, and the anniversary of the founding of the Khalsa Panth.
4. (c)
Statement 1 is not correct: Carnatic music or Carnatic sangeet is the **south Indian classical music**. It has developed in the south Indian states of **Tamil Nadu, Kerala, Andhra Pradesh and Karnataka**. These states are known for their strong presentation of **Dravidian culture**.
Statement 2 is correct: Purandardas is considered to be the **father of Carnatic music**.
Statement 3 is correct: In Carnatic music there is a very highly developed theoretical system. It is based upon a complex system of **Ragam (Raga) and Thalam (Tala)**. Raga is basically the scale and the **seven notes** of this scale are Sa Re Ga Ma Pa Dha and Ni.
Statement 4 is not correct: The Tala (thalam) is the **rhythmic foundation** of Carnatic music.
5. (c)
Statement 1 is correct: Location: Sharda Peeth, a revered site for the Hindu community, is located in **Neelum Valley** in **Pakistan Occupied Kashmir (PoK)** across Teetwal village in Kupwara district of Jammu and Kashmir, along the Line of Control (LoC).
Statement 2 is not correct: Cultural Importance: The ancient temple of Sharda (also spelt Sharada or Sarada) is one of the 18 Maha Shakti Peethas and is considered to be the abode of **Hindu Goddess Saraswati**.
Statement 3 is not correct: Sharda University: Close to the temple, the ruins of one of the **world's oldest universities** can be found. It is believed that Sharda University had its own script known as Sharada and it had over 5,000 scholars and the biggest library.
Statement 4 is correct: Once upon a time, Sharda Peeth was considered the centre of knowledge in the Indian subcontinent, scholars from all over the country used to come here in search of scriptures and spiritual knowledge.



ECONOMY

1. With reference to Social Stock Exchange(SSE), consider the following statements:
 1. It is a platform that will help social enterprises to raise funds from the public.
 2. It was first proposed by the Union Finance Minister during the presentation of the Union Budget for the Financial Year 2023-24.

Which of the statements given above is/are correct?

- (a) 1 Only
 - (b) 2 Only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
2. Which of the following statements are true regarding CEA (Central Electricity Authority)?
 1. It is a statutory organisation constituted under the Electricity Act, 2003.
 2. It is responsible for concurrence of hydro power development schemes of the central government.
 3. CEA primarily regulates tariffs of power generating companies that the Central Government owns.
- (a) 1 and 2 only
 - (b) 2 and 3 only
 - (c) 1 and 3 only
 - (d) 1, 2 and 3
3. Consider the following statements regarding Fugitive Economic Offenders Act, 2018:
 1. The Act aims to help confiscate assets of high-value economic offenders absconding from India till they submit to the jurisdiction of the appropriate legal forum.
 2. The person who is declared as a Fugitive Economic Offender cannot challenge the proclamation as the decision of the Special Court is final.

Which of the statements given above is/are correct?

- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
4. Which of the following regions in India recently underwent the first-of-its-kind experiment on community-based ornamental fish aquaculture, using local resources?
 - (a) Majuli river island in the Brahmaputra River
 - (b) Peacock river islet
 - (c) The Nicobar Islands
 - (d) Agatti Island of Lakshadweep
 5. According to recent notification, Cryptocurrency trade in India will now be covered under which of the following legislations?
 - (a) The Information Technology Act, 2000
 - (b) Cyber Crimes and Information Technology Act.
 - (c) Prevention of Money-laundering Act, 2002.
 - (d) Banking Regulation Act, 1949
 6. With reference to Least Developed Countries (LDCs) consider the following statements:
 1. They are highly vulnerable to economic and environmental shocks.
 2. They are reviewed every three years by the Committee for Development (CDP).
 3. Bangladesh has already graduated from LDCs status in 2021.

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

7. Consider the following statements regarding the global systemically important banks (G-SIBs):
1. Basel-based Financial Stability Board (FSB) in consultation with Basel Committee on Banking Supervision (BCBS) and national authorities have identified the list of G-SIBs.
 2. There are 30 G-SIBs as of now and no Indian bank figures in the G-SIB list.
- Which of the statements given above is/are correct?
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
8. Which of the following countries have graduated from the Least Developed Country (LDC) status?
1. Botswana
 2. Bangladesh
 3. Maldives
 4. Nepal
- Select the correct answer using the code given below:
- (a) 1 and 2 only (b) 2, 3 and 4 only
(c) 1 and 3 only (d) 1, 2, 3 and 4.
9. With reference to the National Statistical Office (NSO), which of the following statements is/are true?
1. The NSO was set up in 1950 to conduct large-scale sample surveys throughout India.
 2. CPI (Rural/Urban/Combined) is compiled by the NSO in the Ministry of Statistics and Programme Implementation.
- Select the correct answer using the code given below:
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
10. With reference to the PM MITRA Scheme consider the following statements:
1. It is inspired by the 5F vision - Farm to Fibre to Fabric to Fashion to Future.
 2. It aspires to position India strongly on the Global textiles map.
 3. PM MITRA Parks offer integrated textile value chain at 1 location.
- Which of the statements given above is/are correct?
- (a) 1 and 2 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3
11. Sablang or Sprouting Method is used in Plantation of which of the following Crops?
- (a) Rice (b) Peppers
(c) Sugarcane (d) Mango
12. As per the NSSO 78th Round Multiple Indicator Survey(MIS), consider the following statements:
1. More than a quarter of rural households and over two-thirds of urban ones in India have piped water for drinking in their houses or yard.
 2. Only 50% have an individual or joint account with banks, other financial institutions or mobile money service providers.
- Which of the statements given above is/are correct?
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

13. Consider the following statements:

1. India ranks 135 among a total of 146 countries in the World Economic Forum's Global Gender Gap Index 2022.
2. Indian Overseas Bank had the highest share of female staffers in their total staff strength.
3. Equal Remuneration Act, 1976; Factories (Amendment) Act, 1948 seek to provide equality and fairness in women working conditions.

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 |

14. Which of the following dimensions are considered while calculating the World Happiness Index by the UN Sustainable Development Solutions Network (SDSN)?

- | | |
|----------------------------|---------------------------------|
| 1. GDP Per Capita | 2. Social Support |
| 3. Healthy life expectancy | 4. Freedom to make life choices |
| 5. Generosity | 6. Environment Pollution |

Choose the correct answer using the codes given below

- | | |
|---------------------------|---------------------------|
| (a) 1, 2, 3 and 4 only | (b) 2, 3, 4, 5 and 6 only |
| (c) 1, 2, 3, 4 and 5 only | (d) 1, 2, 3, 4, 5 and 6 |

15. Consider the following statements:

1. Pradhan Mantri Ujjwala Yojana' (PMUY) was launched by the Ministry of Power in 2016.
2. Adult woman not having LPG connection will be eligible under UJJWALA 2.0.

Which of the statements given above is/are *not* correct?

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

16. PM MITRA scheme that was recently in news will facilitate the setting up of which of the following?

- | | |
|-------------------|---------------------|
| (a) Solar Parks | (b) Wind mills |
| (c) Textile Parks | (d) Amusement Parks |

17. With reference to the Essential Commodities Act 1955, consider the following statements:

1. The Act defined and mentioned the list of the Essential Commodities in order to stop the hoarding and black marketing of food items.
2. The Act empowers only the state governments to regulate the stock of an essential commodity that a person can hold.

Which of the above given statements is/are correct?

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

18. With reference to the Securities Exchange Board of India (SEBI), consider the following statements:

1. It is a statutory body established in the Eighth Five Year Plan.
2. Since 1992, the commodity derivatives market in India has been regulated by SEBI.
3. It is a quasi-legislative and quasi-judicial body.

Which of the above given statements are *not correct*?

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

19. With reference to 'Captive Employment' initiative, consider the following statements:

1. It is an initiative by the Ministry of Labour & Employment.
2. It assures a post-training placement of candidates for a minimum of six months.

Which of the statements given above is/are correct?

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

20. With reference to National Payments Corporation of India (NPCI) Consider the following statements:

1. It is a non-profit organization that operates and manages retail payments and settlement systems in India.
2. It was founded in 2008 by a consortium of major Indian banks, including State Bank of India.
3. It launched Unified Payment System (UPI) in 2016.

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

21. Which of the following are applications of Technical textiles?

1. Construction Material
2. Adaptive Clothing
3. Medicine
4. Industry
5. Agriculture

Select the correct answer using the code given below:

- (a) 1, 2 and 3 only (b) 1, 3 and 5 only
(c) 1, 2, 3 and 4 only (d) All of the above

EXPLANATIONS

1. (a)

In News: Recently, the National Stock Exchange of India received final approval from the markets regulator Securities and Exchange Board of India (SEBI) to set up a Social Stock Exchange (SSE).

Statement 1 is correct: Social Stock Exchange (SSE): The SSE would function as a **separate segment within the existing stock exchange** and help social enterprises raise funds from the **public through its mechanism**.

- It would serve as a **medium for enterprises** to seek finance for their social initiatives, acquire visibility and provide increased transparency about fund mobilisation and utilisation.

Statement 2 is not correct: Finance Minister Nirmala Sitharaman, presenting the **Union Budget back in 2019**, had proposed to initiate steps for creating a stock exchange under the market regulator's ambit.

- The proposal was cleared in September 2021

2. (a)

Statement 1 is correct: The Central Electricity Authority (CEA) is a statutory organisation constituted under Section 3 (1) of the repealed Electricity (Supply) Act, 1948 and continued under Section 70 of the Electricity Act, 2003.

Statement 2 is correct: CEA is responsible for concurrence of hydro power development schemes of central, state and private sectors for efficient development of the river and its tributaries for power generation.

Statement 3 is not correct: CERC (Central Electricity Regulatory Commission) (not CEA) regulates tariffs of power generating companies of the Central Government. CERC also manages companies which follow interstate energy transmission and composite schemes for power generation.

3. (a)

Fugitive Economic Offenders Act, 2018

India has put in place specialized legislation in the form of the Fugitive Economic Offenders Act, 2018.

- **Definition of FEO:** The 'fugitive economic offender' (FEO) is defined as an individual against whom a warrant of arrest in relation to scheduled offence has been issued by any court in India and who has left the country so as to avoid criminal prosecution; or the FEO abroad, refuses to return to face criminal prosecution.
- **Aim:** The Act aims to help confiscate assets of high-value economic offenders absconding from India till they submit to the jurisdiction of the appropriate legal forum. **Hence statement 1 is correct.**
- **Procedure to be followed:**
 - The investigating agencies have to **file an application in a Special Court** under the **Prevention of Money-Laundering Act** containing **details** of the properties to be confiscated, and any information about the person's whereabouts.
 - **The Special Court** will issue a **notice for the person to appear** at a specified place and date **at least six weeks** from the issue of notice.
 - **If the person appears:**
 - Proceedings will be terminated **if the person appears.**
 - **If the person does not appear:**
 - If not the person would be **declared as a Fugitive Economic Offender** based on the evidence filed by the investigating agencies.
 - The person who is declared as a Fugitive Economic Offender **can challenge the proclamation** in the High Court within 30 days of such declaration according to the Fugitive Economic Offenders Act, 2018. **Hence statement 2 is incorrect.**

4. (d)

Ornamental fish aquaculture:

- Community-based ornamental fish aquaculture, using local resources is the first-of-its-kind experiment, **as many as 82 islanders** from **Lakshadweep**, **77 of them women**, were selected and underwent intensive training.
- The NBFGR **maintains a germplasm resource center** for marine ornamental organisms **on Agatti Island** for conservation as well as boosting livelihood sources for the islanders.
- The support being extended by the NBFGR includes capacity **building and hand-holding community aquaculture units** maintained by local women to raise captive-bred marine ornamentals, including shrimps, to marketable size.
- The **NBFGR project team on Agatti island** will **monitor** the units and **provide technical inputs**, till the organisms reach the marketable size.

5. (c)

Money laundering laws will now cover cryptocurrency trade:

- The Finance Ministry said **the anti-money laundering legislation** has been applied to **crypto trading, safekeeping and related financial services**.
 - The notification said,
- **Exchange between virtual digital assets and fiat currencies,**
- Exchange between one or more forms of virtual digital assets,
- Transfer of virtual digital assets, safekeeping or administration of virtual digital assets or instruments enabling control over virtual digital assets, and participation in and
- Provision of financial services related to an issuer's offer and sale of a virtual digital asset"
 - All of the above will now be covered by the Prevention of Money-laundering Act, 2002.
- **Virtual digital assets:**
 - Virtual digital assets were defined as any code or number or token generated through cryptographic means with the promise or representation of having inherent value.

6. (a)

Statement 1 is correct LDCs are **low-income countries** confronting severe structural impediments to sustainable development. They are **highly vulnerable to economic and environmental shocks** and have low levels of human assets.

Statement 2 is correct There are currently **46 countries on the list of LDCs** which are reviewed every **three years** by the **Committee for Development (CDP)**.

Statement 3 is not correct Following countries are scheduled to graduate from LCDs status in coming years:

- Angola (2024)
- **Bangladesh (2026)**
- Bhutan (2023)
- Lao People's Democratic Republic (2026)
- Nepal (2026)
- Sao Tome and Príncipe (2024)
- Solomon Islands (2024)

7. (c)

G-SIBs

- **Basel-based Financial Stability Board (FSB)**, an initiative of **G20 nations**, in consultation with **Basel Committee on Banking Supervision (BCBS)** and national authorities, identified the list of **global systemically important banks (G-SIBs)**. Hence **statement 1 is correct**.
- **There are 30 G-SIBs as of now.**
 - They include JP Morgan, Citibank, HSBC, Bank of America, Bank of China, Barclays, BNP Paribas, Deutsche Bank and Goldman Sachs.
- However, **no Indian bank figures** in the G-SIB list. Hence **statement 2 is correct**.

8. (c)

Six countries have graduated from least developed country status:

- **Botswana in December 1994**
- **Cabo Verde in December 2007**
- **Maldives in January 2011**
- **Samoa in January 2014**

- Equatorial Guinea in June 2017
- Vanuatu in December 2020

Bangladesh and Nepal are scheduled to graduate in **2026**.

9. (b)

The NSSO was set up in 1950 to conduct large-scale sample surveys throughout India. In 2019 the government created an overarching body - National Statistical Office (NSO) through the merger of the NSSO and the CSO. **Hence statement 1 is not correct**

- Consumer Price Index measures price changes from the perspective of a retail buyer. There are four types of CPI
 - CPI for Industrial Workers (IW).
 - CPI for Agricultural Labourer (AL).
 - CPI for Rural Labourer (RL).
 - CPI (Rural/Urban/Combined).
- The first three indices are compiled by the Labour Bureau in the Ministry of Labour and Employment. Fourth is compiled by the NSO in the Ministry of Statistics and Programme Implementation. **Hence statement 2 is correct.**

10. (b)

Statement 1 is not correct The PM MITRA scheme is Inspired by the **5F vision - Farm to Fibre to Factory to Fashion to Foreign**.

Statement 2 is correct It aspires to fulfil the vision of building an **Aatmanirbhar Bharat** and to position India strongly on the **Global textiles map**.

Statement 3 is correct PM MITRA Parks offer an opportunity to create an **integrated textiles value chain** right from spinning, weaving, processing/dyeing and printing to garment manufacturing at 1 location.

- Integrated Textile Value chain at 1 location will **reduce logistics cost of Industry**.

11. (c)

- Sablang method is used in **sugarcane farming**. Plants are grown in fertile soil with wide spacing, shallow planting, frequent irrigation, and adequate fertilisation. The Offshoots are removed carefully from the mother plant as soon as they develop their own roots and are transplanted in the main field.

12. (d)

- **Statement 1 is not correct:** According to the MIS survey, **less than a quarter** of rural households and **under two-thirds** of urban ones in India reported having piped water for drinking in their houses or yard.
 - Although penetration of piped drinking water is abysmal in many states, more than 95.7% of people reported having access to an improved source of drinking water.
- **Statement 2 is not correct:** The MIS survey confirms the progress in financial inclusion in India with **nearly 90%** of those surveyed reporting having an account individually or jointly with banks, other financial institutions or mobile money service providers.

13. (d)

Statement 1 is correct: India ranks **135 among a total of 146 countries** in the World Economic Forum's Global Gender Gap Index 2022, which slipped from 112th position in 2020.

- According to the **World Bank**, from **30.7% in 2006**, the proportion of working age women taking part in paid work dropped to **19.2% in 2021**.

Statement 2 is correct: The proportion of women employees has **increased** over the past year in most of public sector banks. **Indian Overseas Bank had the highest** share of female staffers in their total staff strength at 36%.

Statement 3 is correct: **Equal Remuneration Act, 1976; Factories (Amendment) Act, 1948** seek to provide equality and fairness in women working conditions.

14. (c)

Recently, the 11th edition of the World Happiness Report was released by the **UN Sustainable Development Solutions Network (SDSN)**. For the sixth year running, **Finland was named the world's happiest country**. India was ranked 126 of the 137 countries on the list.

- The report usually **ranks 150 countries based on several factors** such as **real GDP per capita, social support, healthy life expectancy, freedom to make life choices, generosity and perceptions of corruption**.

15. (a)

Statement 1 is not correct: In May 2016, **Ministry of Petroleum and Natural Gas (MOPNG)**, introduced the 'Pradhan Mantri Ujjwala Yojana' (PMUY) as a flagship scheme with an objective to make clean cooking fuel such as LPG available to the rural and deprived households

Statement 2 is correct: An adult woman belonging to a poor household and not having LPG connection in her household, will be eligible under UJJWALA 2.0. The beneficiaries should belong to any of the following categories:

- Eligible as per SECC 2011 list.
- Belongs to SC/ST households, be a beneficiary of Pradhan Mantri Awas Yojana (PMAY), Antyodaya Anna Yojana (AAY), Forest dwellers, Most Backward Classes (MBC), Tea and Ex-Tea Garden Tribes, People residing in river Islands (Beneficiary will submit supporting document).
- If she is not falling in the above 2 categories, then she can stake her claim to be a beneficiary under Poor household by submitting 14-point declaration (as per prescribed format).

16. (c)

PM MITRA Scheme

- The seven Mega Integrated Textile Region and Apparel (**PM MITRA**) parks will be set up at **Greenfield or Brownfield sites** located in **different states**.
- It will be **developed by a Special Purpose Vehicle (SPV)**, which will be **owned by the State Government** and the **Government of India** in a Public-Private Partnership (**PPP**) Mode.

17. (d)

Statement 1 is not correct: The **Essential Commodities Act 1955** was introduced to address the problem of food scarcity during that period in India. The act was enacted to stop the hoarding and black marketing of food items. Essential commodities are **not specifically defined in the Essential Commodities Act, 1955**, but Section 2(A) of the act underlines that an "essential commodity" means a commodity mentioned in the Schedule of the Act.

- The Union government derives its **power to add or remove a commodity specified in the schedule from this act**.

Statement 2 is not correct: The Central Government in consultation with state governments can notify an item as essential. The government can control the production, supply, and **distribution of the declared essential commodity and can also impose a stock limit.**

18. (a)

Statement 1 is not correct: SEBI is a **statutory body** established on April 12, 1992 in accordance with the provisions of the Securities and Exchange Board of India Act, 1992 in the **seventh five year plan.**

Statement 2 is not correct: SEBI regulates the commodity derivatives market in India **since 2015.**

Statement 3 is correct: SEBI is a **quasi-legislative and quasi-judicial body** which can draft regulations, conduct inquiries, pass rulings and impose penalties.

19. (b)

Statement 1 is not correct: Union Minister for Rural Development has initiated the 'Captive Employment' initiative under **Deen Dayal Upadhyaya Kaushalya Yojana (DDU-GKY).**

Statement 2 is correct: The initiative is a shot in the arm for the DDU-GKY programme, assuring **post-training placement of candidates for a minimum of six months with a minimum CTC of Rs 10,000/-.**

20. (d)

Statement 1 is correct: The **National Payments Corporation of India (NPCI)** is a **non-profit organization** that operates and manages **retail payments and settlement systems** in India.

Statement 2 is correct: It was **founded in 2008** by a **consortium of major Indian banks**, including State Bank of India, Punjab National Bank, and Canara Bank.

Statement 3 is correct: NPCI's **flagship product is the Unified Payments Interface (UPI)** launched in **2016** which allows users to instantly transfer funds between bank accounts using a mobile phone.

21. (d)

- A technical textile is a textile product manufactured for non-aesthetic purposes, where function is the primary criterion.
- They are products that are resistant to chemicals, weather conditions, micro-organisms, have superior performance properties such as high strength and non-flammability. Some of their applications are
 - Agrotech: Textiles used in agriculture, horticulture, forestry and aquaculture.
 - Buildtech: Textiles used in buildings and constructions.
 - Clothtech: Lining and similar technical components of clothing and shoes.
 - Geotech: Geological textiles and civil engineering materials.
 - Hometech: Technical components of furniture, home textiles and floor coverings.
 - Indutech: Filtration, transport, cleaning textiles for industrial applications.
 - Medtech: Textiles for hygienic and medical products.

Mobiltech: Textiles for automotive, ships, trains and aircraft.



INDIAN POLITY & CONSTITUTION

1. Consider the following statements:

1. MPs from each party necessarily have to obey the whip.
2. A party whip serves the function of gauging the opinion of the members, and communicating it to party leaders.
3. A one-line whip directs MPs to be present during the vote.

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. |

2. With reference to the Anti-defection law, consider the following statements:

1. A member is not disqualified if he has taken prior permission of his party.
2. Nominated members will be disqualified if they join any political party six months after getting nominated.

Which of the statements given above is/are correct?

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

3. Consider the following statements with respect to the Joint Parliamentary Committee (JPC):

1. It is an ad-hoc body which is set up to examine only bills presented before the Parliament.
2. The first JPC was authorised in 1974 to investigate the maruti scandal.
3. They are set up by a motion passed in any one house of Parliament and agreed to by the other.

Which of the statements given above is/are correct?

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

4. With reference to the National Commission for Scheduled Tribes, consider the following statements:

1. It was established by the 89th Amendment Act of the constitution in 2003.
2. The Commission is vested with powers of a civil court.

Which of the statements given above is/are correct?

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

5. Consider the following statements:

1. Under the Forest Rights Act, 2006 'Gram Sabha' is an important entity to achieve its objective.
2. Under the Forest Conservation Rules 2022, the Union Government will make sure that the claims of forest dwellers are settled.

Which of the statements given above is/are correct?

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

6. Which of the following statements is/are correct about reforms regarding the Special Marriage Act of 1954?

1. The Act doesn't allow civil marriage for Indian nationals in foreign countries.
2. People belonging to any faith or religion can register their marriage under the Act.
3. The couples have to serve a notice with the relevant documents to the Marriage Officer 30 days before the intended date of the marriage.

Choose the correct answer from options given below

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

7. With reference to Rajasthan's Right to Health Bill consider the following statements:

1. It provides for the free health care services only at Government establishments to residents of the state.
2. Health Authorities will be set up at the state and district level.

Which of the statements given above is/are correct?

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

8. Which of the following statements is/are correct regarding the Bar Council of India (BCI)?

1. It is a statutory body established under the section 4 of Advocates Act 1961.
2. The Attorney General of India and the Solicitor General of India are the ex officio members.
3. It cannot recognise foreign qualifications in law obtained outside India for admission as an advocate.

Choose the correct answer from options given below:

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

9. Consider the following pairs:

Supreme Court Cases

1. Mahabir Prasad Judgement
2. Nabam Rebia Judgement
3. Minerva Mills case
4. MC Mehta

Concerned Provisions

- Nature of the governor's pleasure
Discretionary Power of governor
Basic Structure doctrine
Scope of Article 32

How many pairs given above are correctly matched?

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

10. With reference to the procedure and conduct of business in Parliament consider the following statements:

1. It is regulated by rules made under Article 118 of the Constitution.
2. Rule 357 deals with the Personal explanation.
3. Personal explanation states that a member may make a personal explanation when there is a question before the House.
4. Rules were modified by the President under article 118(2) of the Constitution.

Which of the statements given above are correct?

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

11. Consider the following pairs:

Amendment

1. 104th Amendment Act
2. 101st Amendment Act
3. 92nd Amendment Act
4. 61st Amendment Act

Provisions

- Constitutional Status to NCBC
Introduction of GST
Official languages were increased from 18 to 22
Decrease in voting Age from 21 to 18

- How many pairs given above is /are correctly matched?
- (a) Only one pair (b) Only two pairs
(c) Only three pairs (d) All four pairs
12. Lily Thomas v Union of India judgment 2013 was recently in news. It is related to which of the following?
(a) Domestic violence (b) Disqualification of Parliamentarians
(c) Compensatory afforestation (d) Transgender sportspersons
13. Consider the following statements in reference to Section 144 of CrPC:
1. The order issued under it can be applied only to the general public.
2. An order is mandatory for the implementation of the section.
Select the correct answer using the code given below:
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
14. With reference to The Indian Council of Medical Research (ICMR) consider the following statements:
1. It is apex body for promotion of biomedical research in India.
2. The Government of India set up the Indian Research Fund Association (IRFA) in 1949.
3. The governing body of the council is presided over by the Principal Scientific Adviser.
4. The ICMR is funded by the Ministry of Science and Technology.
Which of the statements given above are **not correct**?
(a) 1, 2 and 4 only (b) 2, 3 and 4 only
(c) 3 and 4 only (d) 1, 2, 3 and 4
15. The term 'Affinity test' that was recently in the news, is related to which of the following?
(a) Medical examination of rape victims
(b) Environmental Impact Assessment
(c) Health status of fetus
(d) Caste/tribe claims
16. Consider the following statements in reference to Money Bill:
1. A bill shall be deemed to be a Money Bill if it contains provisions relating to imposition, abolition, remission, alteration or regulation of any tax.
2. Rajya sabha cannot suggest amendments to the bill.
Which of the statements given above is/are correct?
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

EXPLANATIONS

1. (a)
Statement 1 is correct Political parties issue whips to their MPs to either vote for or against the bill, depending on their party line. Once the whip is issued, the MPs from each party will **necessarily have to obey the whip** or else risk losing their seat in Parliament.

Statement 2 is correct The whip is an official appointed to maintain discipline among, secure attendance of, and give necessary information to, members of his party.

- They are expected to be a **channel of communication** between the political party and the members of the party in the legislature.
- They also serve the **function of gauging the opinion** of the members, and communicating it to party leaders.

Statement 3 is not correct There can be 3 Types of Whips

- A **one-line whip**, underlined once, is usually issued to inform party members of a vote, and **allows them to abstain** in case they decide not to follow the party line.
- A **two-line whip** directs them to be **present during the vote**.
- A **three-line whip** is the strongest, employed on important occasions such as the second reading of a Bill or a no-confidence motion, and places an **obligation on members to toe the party line**.

2. (c)

Disqualification on ground of defection: A legislator belonging to a political party will be disqualified if he

- (i) **voluntarily** gives up his party membership, or
- (ii) votes/abstains to vote in the House **contrary to the direction** issued by his political party.
- A member is not disqualified if he has taken **prior permission** of his party, or if the voting or abstention is condoned by the party within 15 days. **Hence statement 1 is correct.**
- **Independent members** will be disqualified if they **join a political party** after getting elected to the House.
- **Nominated members** will be disqualified if they join any political party **six months after getting nominated**. **Hence Statement 2 is correct.**

3. (b)

Statement 1 is not correct: The Joint Parliamentary committee (JPC) is an ad-hoc body which is set up for a given period of time and is aimed at addressing a specific issue not limited to only bills and dissolved after submission of its report to Parliament.

Statement 2 is not correct: The first JPC was formed in August 1987 to investigate the Bofors scandal. It was formed on a motion moved by the then defence minister K.C. Pant in the Lok Sabha on August 6, 1987.

Statement 3 is correct: Joint parliament committees are set up by a motion passed in one house of Parliament and agreed to by the other. The details regarding membership and subjects are also decided by Parliament. For example, the motion to constitute a JPC on the stock market scam (2001) and pesticide residues in soft drinks (2003) was moved by the government in the Lok Sabha.

4. (c)

Statement 1 is correct: It was established by amending **Article 338** and inserting a new **Article 338A** in the Constitution through the **Constitution (89th Amendment) Act, 2003**.

Statement 2 is correct: Powers of the Commission: For Investigation and Inquiry, the Commission is vested with **powers of a civil court** having authority to:

- Summon and enforce attendance of any person and examine on oath;
- Discovery & production of any documents;
- Receive evidence on affidavits;
- Requisition any public record or copy thereof from any court or office;
- Issue Commissions for examination of witnesses and documents; and
- Any matter which President, by rule, may determine.

5. (a)
Statement 1 is correct: As per the rules under the Forest Rights Act, 2006 'Gram Sabha' is an important entity within the act's tools to achieve its objective.
Statement 2 is not correct: The FC Rules, 2022 do not require the collector to obtain the consent of Gram Sabhas before the In-principle approval.
- This means, the Central Government can give its final approval and will, thereafter, leave it to the state government to pass an order for de-reservation or diversion or assignment. It is then left to the **state government** now to **make sure that the claims of forest dwellers are settled.**
6. (c)
Statements 1 is not correct: The Special Marriage Act, 1954 is an Act of the Parliament of India with provision for civil marriage for people of India and all Indian nationals in foreign countries,
Statement 2 is correct: The act provides for the registration of marriage **irrespective of religion or faith followed by either party.**
Statement 3 is correct: The couples have to serve a notice with the relevant documents to the Marriage Officer 30 days before the intended date of the marriage.
7. (b)
Statement 1 is not correct. Rajasthan's Right to Health Bill provides the **right to health and access to healthcare** for people in the state. This includes **free health care services** at any clinical establishment to residents of the state including **private establishments.**
Statement 2 is correct Health Authorities will be set up at the **state and district level.** These bodies will formulate, implement, monitor, and develop mechanisms for quality healthcare and management of public health emergencies.
8. (a)
Statements 1 is correct: The BCI is a **statutory body** established under the **section 4 of Advocates Act 1961** that regulates the legal practice and legal education in India.
Statement 2 is correct: It consists of members elected from **each state bar council, and the Attorney General of India and the Solicitor General of India who are ex officio members.**
Statement 3 is not correct: One of its **functions is to recognise foreign qualifications** in law obtained outside India for admission as an advocate.
9. (d)
Pair 1 is correctly matched Mahabir Prasad Judgement: The case revolved around the question of the **nature of the governor's pleasure** under article 164(1).
- The withdrawal of the governor's pleasure must coincide with the withdrawal of support to the ministry by the assembly.
 - **Pair 2 is correctly matched Nabam Rebia Judgement:** SC ruled that Article 163 of the Constitution does not give the Governor a general **discretionary power** to act against or **without the advice of his Council of Ministers.**
 - **Minerva Mills case:** The judgement struck down 2 changes made to the Constitution by the 42nd Amendment Act 1976, declaring them to be **violative of the basic structure** hence, **Pair 3 is correctly matched**
 - **Pair 4 is correctly matched MC Mehta:** SC held that its power under **Article 32** is not restricted to preventive measures, but also remedial measures when rights are violated.

10. (a)

Statement 1 is correct: The procedure and conduct of business in Parliament is regulated by rules made under **Article 118 of the Constitution** and, in relation to certain financial business, by law made by Parliament under Article 119 of the Constitution. (No such law has so far been made by Parliament under Article 119.)

Statement 2 is correct: Rule 357 procedure and conduct of business in Parliament deals with **Personal explanation**.

Statement 3 is not correct: Personal explanation states that a member may, with the **permission of the Speaker**, make a personal explanation although there is **no question** before the House, but in this case no debatable matter may be brought forward, and no debate shall arise.

Statement 4 is not correct: Rules were modified and adopted by the **Speaker of Lok Sabha** in exercise of the powers conferred on the Speaker by **article 118(2)** of the Constitution.

11. (c)

In News: Recently, **The Goods and Services Tax (GST) Council**, approved the creation of a national tribunal for the **redressal of GST disputes**.

- The 102nd Amendment Act inserted Articles 338B and 342A into the Indian Constitution.
 - Article 338B deals with the structure, duties and powers of the National Commission for Backward Classes (NCBC).
 - Article 342A deals with the power of the President of India to notify a particular caste as a Socially and Educationally Backward Class (SEBC) and the power of the Parliament to change the list.
 - The amendment also brings about changes in Article 366.
 - This amendment gave the NCBC a constitutional status. The Commission was originally set up in 1993.
 - **The One Hundred and Fourth Amendment of the Constitution of India**, extends the **deadline for the cessation of the reservation of seats for members from Scheduled Castes and Scheduled Tribes in the Lok Sabha and State Legislative Assemblies** by a period of 10 years.

Hence pair 1 is incorrectly matched

Pairs 2, 3 and 4 are correctly matched

- **The 101st Amendment Act** led to Article 246A in the constitution which **operationalised GST**.
- **The 92nd Amendment Act** amended the Eighth Schedule to the Constitution so as to include Bodo, Dogri, Maithili and Santali languages. The Eighth Schedule to the **Constitution originally included 14 languages**. Sindhi was included by the 21st Amendment, enacted in 1967; and Konkani, Meitei and Nepali were included by the 71st Amendment in 1992.
- **The 61st amendment act** amended Article 326 of the Constitution to reduce the **voting age from 21 years to 18 years**.

12. (b)

Lily Thomas v Union of India & disqualification of MPs

- **Section 8(4):**
 - It states that the **disqualification** takes effect only **“after three months have elapsed”** from the date of conviction. Within that period, MP can file an appeal against the sentence before the High Court.
 - **Lily Thomas v Union of India:** While the law had initially provided for a pause on disqualification if an appeal against the conviction was filed before a higher court, in the landmark 2013 ruling in ‘Lily Thomas v Union of India’, the Supreme Court struck down **Section 8(4) of the RPA** as

unconstitutional.

13. (d)

- **Statement 1 is not correct:** An order under Section 144 can be for a particular individual or to the public generally.
 - Section 144 CrPC prohibits such activities or actions which are generally allowed on normal, regular days. It is imposed to maintain peace and tranquillity in an area
- **Statement 2 is not correct:** An order under section 144 may be passed even ex-parte (after implementation) if there is an emergent situation or if circumstances do not allow the serving of due time to the person against whom the order has been made. Any order under this section shall remain in force for not more than two months.

14. (b)

Statement 1 is correct: It is the apex body in India for the formulation, coordination and promotion of biomedical research, and is one of the oldest medical research bodies in the world.

Statement 2 is not correct: In 1911, the Government of India set up the Indian Research Fund Association (IRFA) with the specific objective of sponsoring and coordinating medical research in the country.

- It was redesignated the Indian Council of Medical Research (ICMR) in 1949.

Statement 3 is not correct: The governing body of the council is presided over by the Union Health Minister. It is assisted in scientific and technical matters by a scientific advisory board comprising eminent experts in different biomedical disciplines

Statement 4 is not correct: The ICMR is funded by the Government of India through the Department of Health Research, Ministry of Health and Family Welfare.

15. (d)

The affinity test: An affinity test mandates the study and preparation of a report by authorities on caste/tribe claims based on the peculiar anthropological and ethnological traits, deities, rituals, customs, mode of marriage, death ceremonies, methods of burial of dead bodies, etc., of the particular caste or tribe and the applicants knowledge of them.

- But the Supreme court recently said that an “affinity test can never be conclusive” to prove a caste/tribe claim.
- It stated that an affinity test is not an essential part of the process of the determination of the correctness of a caste or tribe claim in every case.

16. (a)

Statement 1 is correct: Article 110 of the Constitution deals with the Money Bills. It states that a bill is deemed to be a money bill if it contains ‘only’ provisions dealing with all or any of the following matters:

- The imposition, abolition, remission, alteration or regulation of any tax;
- The regulation of the borrowing of money by the Union government;
- The custody of the Consolidated Fund of India or the contingency fund of India, the payment of moneys into or the withdrawal of money from any such fund;
- The appropriation of money out of the Consolidated Fund of India;
- Declaration of any expenditure charged on the Consolidated Fund of India or increasing the amount of

any such expenditure;

- The receipt of money on account of the Consolidated Fund of India or the public account of India or the custody or issue of such money, or the audit of the accounts of the Union or of a state; or
- Any matter incidental to any of the matters specified above.

Statement 2 is not correct: Rajya Sabha can **suggest amendments** to the money bill but it's up to the Lok Sabha to consider these amendments or not. At most rajya sabha can delay it for a period of 14 days.

■■■■

GEOGRAPHY

1. Which of the following may be experienced during El Nino year in India?

1. Monsoon Deficit & dry events
2. Stronger than normal vertical shear
3. Increase in the planet's average surface temperature
4. Enhanced cyclogenesis

Select the correct answer using the code given below:

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

2. Consider the following pairs:

Sea	Bordering country
1. Adriatic Sea	Montenegro
2. Celebes Sea	Philippines
3. Molucca Sea	Indonesia
4. Mediterranean Sea	Cyprus

Which of the pairs given above are correctly matched?

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

3. According to the Landslide Atlas of India, which of the following states experienced the highest number of landslides in the past 25 years?

- (a) Uttarakhand (b) Mizoram
(c) Manipur (d) Arunachal Pradesh

4. With reference to the National Platform for Disaster Risk Reduction, consider the following statements:

1. It is a multi-stakeholder platform constituted by the Government of India in 2013.
2. One of the functions is to review the National Disaster Management Policy.

Which of the statements given above is/are correct?

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

5. Which river is also known as Dakshina Pinakini in Kannada?

- (a) Kaveri River (b) Tungabhadra
(c) Pennaiyar River (d) Tapi River

6. Which of the following rifts has a widening crack that has recently triggered the formation of a new sea?

- (a) Mediterranean Rift (b) Australian Rift
(c) East African Rift (d) Siberian Rift

7. Consider the following statements with reference to lightning:

1. It is a massive discharge of electricity generated in giant moisture-bearing clouds.
2. The temperature towards the top of these clouds ranges from 35-45 degrees.
3. There is a greater probability of lightning striking tall objects.

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.

EXPLANATIONS

1. (a)

El Niño:

- El Niño is the warming of seawater in the central-east Equatorial Pacific that occurs every few years.
 - Forecasts for the **2023 fall and winter** are predicting that **El Niño**, will occur with more than a **50% probability**.
- Outcomes:
 - Increase in the planet's average surface temperature:
 - An El Niño year creates a global-warming crisis in miniature:
- This is because the warm water spreading across the tropical Pacific and releases a large amount of heat into the atmosphere.
 - An El Niño this year could increase the planet's average surface temperature **by more than 1.5° C** from pre-industrial levels. **Hence option 3 is correct.**
 - Transition of La Niña to El Niño:
 - A transition **from a La Niña winter** – which we are in currently – **to an El Niño summer** has historically tended to produce the largest deficit in the monsoon.
 - This means that pre-monsoon and monsoon circulations tend to be weaker in an El Niño year.
 - Weaker vertical shear:
 - The vertical shear, which is the change in intensity of winds from the surface to the upper atmosphere, tends to be weaker as well.
 - This in turn can favour **enhanced cyclogenesis, i.e. cyclone formation**. **Hence option 4 is correct and 2 is incorrect.**
 - Monsoon Deficit & dry events:
 - If an El Niño state does emerge by summer, India is likely to experience a deficit monsoon in 2023.
 - The monsoon deficit will be accompanied by extreme wet and dry events.
 - While overall seasonal total could be deficient, there are likely to be isolated pockets of heavy or very heavy rainfall. **Hence option 1 is correct.**

2. (d)

The Adriatic Sea is a part of the Mediterranean Sea positioned between the eastern coastline of Italy, and countries of the Balkan Peninsula, from Slovenia, South through Croatia, Montenegro, and to Albania. **Hence, pair 1 is correctly matched.**

- The Celebes Sea is located in the western Pacific Ocean north of the Indonesian Island of Celebes and south of the Sulu Sea and the Philippines. **Hence, pair 2 is correctly matched.**
- The Molucca Sea is a part of the western Pacific Ocean, bounded by the Indonesian islands of Celebes (west), Halmahera (east), and the Sula group (south). **Hence, pair 3 is correctly matched.**
- Cyprus is an island country located south of the Anatolian Peninsula in the eastern Mediterranean Sea. **Hence, pair 4 is correctly matched.**

3. (b)

Option b is correct: Nearly half of the country's landslide-prone area (0.18 sq km) is located in the states of Assam, Arunachal Pradesh, Sikkim, Meghalaya, Mizoram, Manipur, Tripura and Nagaland.

- Mizoram, recorded the highest number of landslide events (12,385) in the past 25 years, of which 8,926 were recorded in 2017 alone.

- Uttarakhand has experienced the second highest number (11,219) of landslides since 1998, all events since occurring post 2000.

4. (c)

Statement 1 is correct. National Platform for Disaster Risk Reduction is a multi-stakeholder platform constituted by the Government of India in 2013 to facilitate dialogue, sharing experiences, views, ideas, action-oriented research & explore opportunities in the area of Disaster Risk Reduction (DRR).

Statement 2 is correct

Functions of National Platform for Disaster Risk Reduction

- To **review the progress** made in the field of disaster management from time to time.
- To **appreciate** the extent and manner in which the **Disaster Management Policy** has been implemented by the Central and State Governments, and other concerned agencies, and to **give appropriate advice in the matter.**
- To **advise on coordination** between the Central and State Governments/UT Administrations, local self-governments and civil society organizations for Disaster Risk Reduction.
- To **advise suo-moto or on a reference** made by the Central Government or any other State Government or a Union territory Administration on any question pertaining to disaster management.
- To **review the National Disaster Management Policy.**

5. (c)

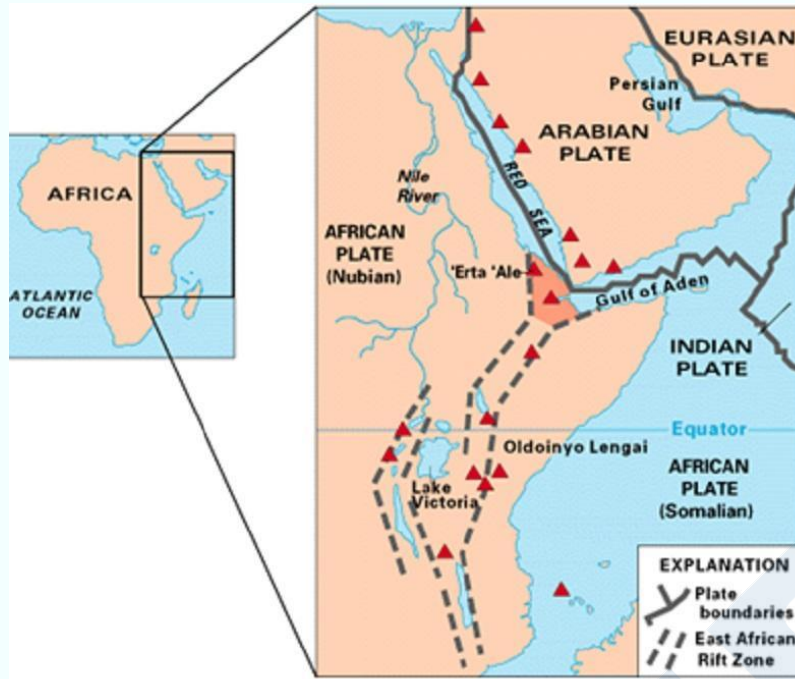
Option c is correct: Pennaiyar River originates in the Nandi Hills in the Chikkaballapura district of Karnataka and flows through Tamil Nadu before emptying into the Bay of Bengal.

- It is also known as the South Pennar River, **Dakshina Pinakini** in Kannada and Thenpennai or Ponnaiyar or Pennaiyar in Tamil.

6. (c)

East African Rift:

- The division of the continent is **connected to the East African Rift**, a crack that stretches 56 kilometres and appeared in the **desert of Ethiopia in 2005.**
- The crack has triggered the formation of a new sea.
- **Division of the continents:**
 - This geological process will **inevitably divide the continent**, resulting in currently landlocked countries, such as **Uganda and Zambia**, obtaining their own coastlines in due time, which would take five to 10 million years according to the study.
 - As the **Somali and Nubian tectonic plates** continue to pull apart from each other, a smaller continent will be created from the rift, which will include present-day **Somalia** and parts of **Kenya, Ethiopia, and Tanzania.**
 - The **Gulf of Aden and the Red Sea** will eventually **flood into the Afar region** in Ethiopia and the East African Rift Valley, **leading to the formation of a new ocean.**



7. (c)

Statement 1 is correct: Lightning is a very rapid — and massive — discharge of electricity in the atmosphere, some of which is directed towards the Earth's surface. These discharges are generated in **giant moisture-bearing clouds** that are 10-12 km tall.

Statement 2 is not correct: Temperatures towards the top of these clouds are in the range of **minus 35 to minus 45 degrees Celsius**.

Statement 3 is correct: There is a greater probability of lightning striking **tall objects** such as trees, towers or buildings.

■■■■■

GOVERNMENT SCHEMES/INITIATIVE

1. With reference to the Grievance Appellate Committee (GAC) consider the following statements
 1. It is an online dispute resolution mechanism.
 2. It is established under Lokpal and Lokayuktas Act, 2013.
 3. It consists of a chairperson and two whole-time members appointed by the Central Government.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
2. Consider the following statements
 1. Under the Old Pension Scheme (OPS), retired employees received 50 percent of their last drawn salary as monthly pensions.
 2. Under the new pension scheme (NPS), employees contribute 25 % of their basic salary towards pension while the government contributes 30%.Which of the statements given above is/are correct?
 - (a) 1 Only
 - (b) 2 Only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
3. With reference to Samarth Scheme consider the following statements:
 1. It is the scheme under the Ministry of Textiles.
 2. It is a targeted scheme for the vulnerable section of the society.Which of the statements given above is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
4. Consider the following statements:
 1. One Nation, One Challan is an initiative of the Ministry of Road Transport and Highways.
 2. The system involves detection of traffic violations through the CCTV network and getting the registration number of the erring vehicle from applications like VAHAN and SARATHI.Choose the correct answer from options given below
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
5. Consider the following statements:
 1. The First Tourism policy was announced by the Government of India in 1982.
 2. Rajasthan is the first state to recognize tourism as an industry.Choose the correct answer from options given below:
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
6. Which of the following statements is/are correct about reforms regarding Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP)?
 1. It was launched by the Ministry of Chemicals & Fertilizers, in 2008.
 2. The Government has set a target to increase the number of Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJKs) to 10,000 by 2023.

Choose the correct answer from options given below:

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

7. Consider the following statements with reference to PM-YASASVI scheme

1. It is formulated by the Ministry of Social Justice and Empowerment.
2. It awards the scholarships to the Other Backward Class (OBC) students only.
3. Yasasvi Entrance Test (YET) is conducted by National Testing Agency (NTA).

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

8. Consider the following statements regarding NIPUN Bharat Mission:

1. It is implemented by the Department of School Education and Literacy (DoSEL), the Ministry of Education.
2. It aims to improve foundational literacy and numeracy of children in the age group of ten to fifteen years.
3. It will be implemented by a 3 tier mechanism in a few states initially.

Which of the above statements are **not correct**?

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

EXPLANATIONS

1. (c)

In News: The Ministry of Electronics and Information Technology launched the Grievance Appellate Committee (GAC) portal under the IT Rules, 2021.

Statements 1 and 3 are correct: GAC is an online dispute resolution mechanism. Users aggrieved by a decision of the Grievance Officer of an intermediary may file their appeal through the GAC's platform

- The GAC consists of a chairperson and two whole-time members appointed by the Central Government, of which one will be a member ex-officio and two will be independent members.
- Any person aggrieved by a decision of an intermediary's Grievance Officer may appeal to the Grievance Appellate Committee within 30 days of the receipt of communication from the Grievance Officer.

Statement 2 is not correct: GAC is established under the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 ["IT Rules"], made under the Information Technology Act, 2000.

- The IT Rules and GAC aim to ensure a Safe & Trusted and Accountable Internet for Indian users.

2. (a)

In News: Recently, the government has decided to give a one-time option to select Central government employees to migrate to the Old Pension Scheme (OPS), who applied for jobs advertised before December 22, 2003.

Statement 1 is correct: Under Old Pension Scheme (OPS), employees get a defined pension. An employee is entitled to a 50% amount of the last drawn salary as a pension.

- The government bears the expenditure incurred on the pension.
- It was discontinued by the NDA government in 2003 with effect from April 1, 2004.

Statement 2 is not correct: Under the new pension scheme (NPS), employees contribute 10% of their basic salary towards pension while the government contributes 14%. NPS is mandatorily applicable to Central Government employees (except Armed Forces) recruited on or after 01.01.2004. Subsequently, all State Governments excluding West Bengal have also adopted NPS for their employees.

3. (a)

Statement 1 is correct Samarth is a demand driven and placement-oriented umbrella skilling programme of the Ministry of Textiles.

Statement 2 is not correct The scheme has been penetrated across 28 States and 6 Union territories of the country and caters to all sections of the society including SC, ST and other marginalized categories.

4. (c)

Statements 1 is correct: One Nation, One Challan is an initiative of the Ministry of Road Transport and Highways.

Statement 2 is also correct: The system involves detection of traffic violations through the CCTV network and getting the registration number of the erring vehicle from applications like VAHAN (detecting the vehicle's ownership details) and SARATHI (compilation of driving licenses).

- An e-challan is then generated with the relevant penalty amount, and sent to the mobile number linked with the vehicle.
- If someone doesn't pay the challan amount within 90 days, the challan will be automatically forwarded to a virtual court and proceedings will be initiated.

5. (a)

Statements 1 is correct: The First Tourism policy was announced by the Government of India in November 1982.

Statement 2 is not correct: Kerala is the first state to recognize tourism as an industry. Kerala is one of the states that make a maximum profit through the tourism industry.

In 2020, The total earnings from tourism stood at Rs. 45,010.69 crore, notching a robust 24.14 per cent increase.

6. (c)

Statements 1 is correct: It was launched by the Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers, Government of India in November, 2008.

Statement 2 is correct: The Government has set a target to increase the number of Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJKs) to 10,000 by the end of December, 2023.

7. (c)

Statement 1 is correct: It is formulated by the Ministry of Social Justice and Empowerment (MSJ&E) and known as PM Young Achievers Scholarship Award Scheme for Vibrant India (YASAVI).

Statement 2 is not correct: Under the scheme scholarships are awarded to Other Backward Class (OBC), Economically Backward Class (EBC) and Nomadic and Semi-Nomadic Tribes Denotified Tribe (DNT) students.

Statement 3 is correct: Selection of candidates for award of Scholarships under the Scheme is through a written test known as **Yasasvi Entrance Test (YET)** conducted by **National Testing Agency (NTA)**.

8. (b)

Statement 1 is correct: NIPUN Bharat is Implemented by: **Department of School Education and Literacy (DoSEL), the Ministry of Education.**

Statement 2 is not correct: It aims to achieve the goal of universal proficiency in foundational literacy and numeracy for every child by the end of Grade 3, by 2026-27, as envisaged by National Education Policy 2020.

- It aims to cover the learning needs of children in the **age group of 3 to 9 years.**

Statement 3 is not correct: A **five-tier implementation mechanism** will be set up to implement NIPUN at the **National- State- District- Block- School level in all States and UTs**, under the aegis of the centrally sponsored scheme of Samagra Shiksha.

- It covers key technical aspects of foundational literacy and numeracy as well as the administrative aspects for effectively setting up an implementation mechanism at the National, State, District, Block and School level.

■ ■ ■ ■

DEFENCE / INTERNAL SECURITY

1. 'Igla-s' as commonly heard in news refers to:
 - (a) man-portable air defence system (MANPADS)
 - (b) Inter Continental Ballistic Missile.
 - (c) Attack Helicopter
 - (d) Drone System
2. With reference to Indian Air Force (IAF), consider the following statements:
 1. It is divided into five operational and two functional commands.
 2. The purpose of an operational command is to maintain combat readiness.Which of the statements given above is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
3. With reference to the military exercises across the nations, consider the following statements:
 1. Exercise Pitch Black is a biennial exercise hosted by Britain's Royal Air Force.
 2. Malabar exercise started as a trilateral exercise between the navies of US, India and Japan.Which of the above statements is/are **not correct**?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) None of the above
4. Consider the following statements:
 1. Suspension of Operations (SoO) pact was signed between the Government of India, the Manipur government and Naga tribes.
 2. The Kukis are an ethnic group originally inhabiting Sikkim.Choose the correct answer from options given below
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
5. The Ministry of Rural Development signed a Memorandum of Understanding (MoU) for Lakhpati Didis with which Ministry?
 - (a) Ministry of Labour and Employment
 - (b) Ministry of Ayush
 - (c) Ministry of Women and Child Development
 - (d) Ministry of Social Justice and Empowerment
6. The military Exercise "Bold Kurukshetra" is held between India and which of the following countries?
 - (a) Mongolia
 - (b) Indonesia
 - (c) Singapore
 - (d) Malaysia
7. With reference to Shimla Covention consider the following statements:
 1. The McMahon Line was drawn during the Shimla Convention of 1914 by Sir Henry McMahon.
 2. China was represented at the convention by the People's Republic of China.
 3. Tawang region of Arunachal Pradesh became part of India as one of the outcomes of the convention.Choose the correct answer from options given below:
 - (a) 1 and 2 only
 - (b) 2 and 3 only
 - (c) 1 and 3 only
 - (d) 1, 2 and 3

8. Indian Navy's recently commissioned INS ANDROTH belongs to which of the following categories?
- (a) Guided Missile Cruiser (b) Frigate
(c) Anti submarine Warfare Craft (d) Amphibious Assault Ship
9. Consider the following statements regarding the National Security Act, 1980:
1. The Act empowers the state to detain a person without trial.
 2. Under it the detention is ordered by police based on a specific violation of the law.
 3. Legal Proceedings can be initiated against the official who passes the detention orders.
- Which of the statements given above is/are correct?
- (a) 1 only (b) 1 and 2 only
(c) 2 and 3 only (d) 1 and 3 only
10. Consider the following statements with reference to Arms Rules in India:
1. The India Arms Act of 1878 was enforced after the Sepoy Mutiny of 1857.
 2. Under the Arms Rules 2016, safety training is required to apply for Arms license.
 3. Sportspersons are allowed to carry firearms for shooting practice.
 4. Only the Members of the National Cadet Corps (NCC) are exempted under the Arms Rules.
- 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, 2, 3 and 4
11. The term 'Swathi', which was in the news in relation to Defence, is a:
- (a) Surface to air Weapon System (b) Weapon locating radar
(c) Anti Tank Missile (d) None of the Above
12. Consider the following statements:
1. Strategic nuclear weapons are meant to carry out a limited strike in a smaller area.
 2. Tactical nuclear weapons are capable of destroying whole cities.
- Which of the statements given above is/are correct?
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

EXPLANATIONS

1. (a)
Option (a) is correct: Igla-S is developed by Russia
- It is a man-portable air defence system (MANPADS)
 - It has won bid for the Indian Army's Very Short Range Air Defence deal.
 - It is designed for use against visible aerial targets at short range such as tactical aircraft, helicopters, unmanned aerial vehicle (UAVs), cruise missile, head-on or receding, in presence of natural (background) clutter and countermeasures.
2. (a)
The Indian Air Force is **headquartered in New Delhi**. For effective command and control, the IAF has **seven commands**, under which there are **different stations and units** located at various places throughout the country.
- It is divided into **five operational and two functional commands**. Each Command is headed by an **Air Officer Commanding-in-Chief** with the rank of **Air Marshal**. Hence statement 1 is correct.

- **Purpose:** The purpose of an operational command is to **conduct military operations** using aircraft within its area of responsibility, whereas the responsibility of functional commands is to **maintain combat readiness**. Hence statement 2 is not correct.

3. (c)

Statement 1 is not Correct: Exercise Pitch Black is hosted by **Australian Air Force** at its **Darwin Air Base**. The 2022 version of the exercise saw the participation of 17 Air Forces including that of India and over 2500 military personnel.

Statement 2 is not Correct: Malabar is a **multilateral war-gaming naval exercise** that was started in 1992. It began as a bilateral exercise between the **navies of India and the United States**.

4. (d)

Statements 1 is not correct: Suspension of Operations (SoO) was a **ceasefire pact** between the **Government of India, the Manipur government, and the two umbrella groups of Kuki militants**.

Statement 2 is not correct: The Kukis are an ethnic group including multiple tribes **originally inhabiting** the North-Eastern states of India **such as Manipur, Mizoram and Assam; parts of Burma (now Myanmar)**.

5. (b)

The Ministry of Rural Development signed an Memorandum of Understanding (MoU) with the Ministry of Ayush to collaborate in **developing skilled personnel**.

- Initial target is to train **a large number of women**, which will be increased going forward.
- Lakhpati Didis are the Women with **annual earnings of Rs. 1 lakh and more from the Self Help Groups (SHGs)**.

6. (c)

Option c is correct: Recently, the Singapore Army and Indian Army participated in the 13th edition of **Exercise "Bold Kurukshetra"**.

- It was the 13th edition of Exercise Bold Kurukshetra and is a **bilateral armour exercise** which was held at Jodhpur Military Station, India.
- It was **first conducted in 2005**.
 - This year, it was **hosted by the Indian Army** and the exercise involved soldiers from the 42nd Battalion, Singapore Armoured Regiment and an Armoured Brigade of the Indian Army.
 - It involved an understanding of mechanised warfare in emerging threats and evolving technologies.

7. (c)

Statement 1 is correct The McMahon Line was drawn during the **Shimla Convention of 1914**, officially described as the **Convention Between Great Britain, China, and Tibet**. The line was determined by **Sir Henry McMahon**, then Foreign Secretary in the Government of British India, and it is called the McMahon Line after his name.

Statement 2 is not correct China was represented at the convention **by the government of the Republic of China**, which was in power in the mainland from 1912 to 1949.

The Chinese Communist Party (CCP) is the founding and ruling political party of modern China, officially known as the **People's Republic of China**.

Statement 3 is correct According to the Shimla Treaty, the McMahon Line is the clear **boundary line between India and China**. On behalf of India, the British rulers considered **Tawang of Arunachal Pradesh and the southern part of Tibet** as part of India and which was also agreed by the Tibetans. Due to this, the **Tawang region of Arunachal Pradesh became part of India**.

8. (c)

- INS Androth is the **second in a series of eight Anti-Submarine Warfare Shallow Water Craft (ASW SWC)** built by Garden Reach Shipbuilders and Engineers in Kolkata.
- Its primary role is to conduct anti-submarine operations in coastal waters, low intensity maritime operations and mine laying operations.

9. (a)

The National Security Act was passed by the Parliament in 1980 and has been amended several times since then. NSA “empowers the state to detain a person without a formal charge and without trial”. Hence statement 1 is correct.

- Under it an **administrative order** is passed either by the **Divisional Commissioner** or the **District Magistrate (DM)** and **not detention ordered by police** based on specific allegations or for a specific violation of the law. Hence statement 2 is not correct.
- **The DM who passes the detention order is protected under the Act:** No prosecution or any legal proceeding can be initiated against the official who carries out the orders. Therefore, the writ of habeas corpus is the available remedy under the Constitution against the state’s power of taking people into custody under the NSA. Hence statement 3 is not correct.

10. (a)

Statement 1 is correct: Following the Sepoy Mutiny of 1857, the British enforced the **Arms Act of 1878** disallowing any Indian from possessing firearms unless the British were convinced of his/her loyalty to the Crown. Post-Independence, this law was scrapped and the **Indian Arms Act, 1959** was passed.

Statement 2 is correct: In 2016, the Centre issued new **Arms Rules, 2016**, superseding the Arms Rules, 1962, whereby applying for an arms license, rifle club, association, or firing range required one to complete a safety training course involving safe handling and carrying procedures.

Exemptions

- Arms which are part of the ordinary equipment of any **sea-faring vessel or aircraft** are exempted under the Act.
- **Sportspersons (international medallists/renowned shooters)** are allowed to carry firearms for shooting practice. Hence, Statement 3 is correct.
- Persons who are under orders of the **Central government, public servants or members of the National Cadet Corps (NCC)** are also exempt from the provisions of this Act. Hence, Statement 4 is not correct.

11. (b)

- Swathi is a weapon locating phased array radar developed by India. It is a counter-battery radar designed to detect and track incoming artillery and rocket fire to determine the point of origin for counter-battery fire.
 - The WLR has been jointly developed by the Electronics and Radar Development Establishment (LRDE), a lab of the Defence Research and Development Organisation (DRDO) and Bharat Electronics Limited (BEL).

12. (d)

Tactical vs Strategic Nuclear Weapons

- **Tactical nuclear weapons** are small nuclear warheads and delivery systems meant to carry out a **limited strike in a smaller area**. On the other hand, **strategic nuclear weapons** are understood to mean those causing greater, large-scale damage. Hence, Statement 1 is not correct.
- **Tactical nuclear weapons** have a relatively short range and a much lower yield than **strategic nuclear weapons** which are **capable of destroying whole cities**. Hence, Statement 2 is not correct.



INTERNATIONAL RELATIONS

1. Windsor Framework recently seen in the news, it is related to which of the following?
 - (a) China and Russia
 - (b) United Kingdom and the European Union
 - (c) BRICS and Iran
 - (d) International Monetary Fund and Israel
2. Partnership for Global Infrastructure and Investment (PGII) is an initiative by which of the following multilateral institutions?
 - (a) UNCTAD
 - (b) G7
 - (c) G20
 - (d) Asian Development Bank
3. Which of the following statements is/are correct regarding the BIMSTEC?
 1. BIMSTEC is a regional organisation that was established with the signing of the Bangkok Declaration.
 2. Cooperation within BIMSTEC had initially focused on six sectors in 1997.Choose the correct answer from options given below
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
4. Battle of Bakhmut, recently seen in the news, is related to
 - (a) Armenia and Azerbaijan
 - (b) Venezuela and Colombia
 - (c) Iraq and Syria
 - (d) Russia and Ukraine
5. With reference to the United Nations Convention on the Law of Sea (UNCLOS), consider the following statements:
 1. According to the convention, a coastal state has the right to establish territorial waters upto 12 kms from its baseline.
 2. India is a founding Signatory of UNCLOS.Which of the statements given above is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 and 2
6. Consider the following statements regarding "Raisina Dialogue":
 1. It is India's premier foreign policy conference on geopolitics and geoeconomics
 2. It is organized on the lines of the Shangri La Dialogue which takes place annually in the USA.
 3. Raisina Dialogue of 2023 was the third edition of the Dialogue held in New Delhi.Which of the statements given above is/are correct?
 - (a) 1 only
 - (b) 1 and 2 only
 - (c) 2 and 3 only
 - (d) 1, 2 and 3
7. Which of the following nations are **not** a part of the Supply Chain Resilience Initiative?
 - (a) India
 - (b) South Korea
 - (c) Japan
 - (d) Australia
8. Which of the following statements is/are correct regarding the Shanghai Cooperation Organization (SCO)?
 1. Kazakhstan, China, Kyrgyzstan, Russia and Tajikistan were members of the Shanghai Five.
 2. India and Pakistan were given full membership in 2021.

Choose the correct answer using the codes given below:

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

9. With reference to the AUKUS alliance, which of the following statements is/are correct?

1. It is a technology transfer partnership for Submarines between Australia, France and the United States.
2. The participating countries are part of Five eyes alliance.

Select the correct answer using the codes given below:

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

10. Consider the following statements regarding International Criminal Court (ICC):

1. It was established under a 1998 treaty called the "Rome Statute".
2. Unlike the International Court of Justice (ICJ), the ICC prosecutes individuals.
3. Both India & China are its members.

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

11. With reference to Vienna Convention on Diplomatic Relations, consider the following statements:

1. It provides a complete framework for the maintenance of diplomatic relations on a basis of consent between independent sovereign States.
2. It is ratified by all countries across the globe.

Which of the statements given above is/are correct?

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

12. Consider the following statements regarding India-Bangladesh Friendship Pipeline (IBFPL):

1. The friendship pipeline runs from southern Assam to Sylhet in Bangladesh.
2. It will be used to supply diesel from India to Bangladesh.
3. It is the first cross-border energy pipeline between India-Bangladesh.

Select the correct answer using the code given below:

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

13. Which of the following countries was not the founding members of the Shanghai Cooperation Organisation (SCO)?

1. India
2. Uzbekistan
3. Tajikistan
4. Iran

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

EXPLANATIONS

1. (b)

In News: Recently, The UK government reached a landmark deal with the European Union (EU) on post-Brexit trade rules that will govern Northern Ireland.

The 'Windsor Framework' will replace the **Northern Ireland Protocol**, which had proved to be among the thorniest of Brexit fall-outs, creating problems both **economic and political**. The framework has two crucial aspects – the introduction of a green lane and red lane system for goods that will stay in Northern Ireland and those that will go to the EU respectively; and the 'Stormont Brake', which allows Northern Ireland lawmakers and London to veto any EU regulation they believe affects the region adversely.

2. (b)

Option B is correct: At the 48th G-7 Summit, the U.S. along with G7 allies unveiled the ambitious Partnership for Global Infrastructure and Investment (PGII).

- The PGII is seen as the G7's counter to China's multi-trillion dollar Belt and Road Initiative (BRI) to build connectivity, infrastructure, and trade projects in Asia, Europe, Africa, and Latin America.
- Under the PGII, G7 will mobilize 600 billion dollars by 2027 to deliver infrastructure projects to developing and middle-income countries.

3. (c)

Statement 1 is correct: BIMSTEC is a regional organisation that was established on 06 June 1997 with the signing of the Bangkok Declaration.

- Initially known as BIST-EC (Bangladesh-India-Sri Lanka-Thailand Economic Cooperation), the organisation is now known as BIMSTEC and comprises seven Member States with the admission of Myanmar on 22 December 1997, and Bhutan and Nepal in February 2004.
- **Statement 2 is correct:** Being a sector-driven grouping, cooperation within BIMSTEC had initially focused on six sectors in 1997 (trade, technology, energy, transport, tourism, and fisheries) and expanded in 2008 to incorporate agriculture, public health, poverty alleviation, counter-terrorism, environment, culture, people-to-people contact, and climate change.

4. (d)

In News: The Ukrainian military might decide to pull troops back from the key stronghold of Bakhmut.

- Bakhmut is a small mining town in eastern Ukraine's Donetsk province.
- Bakhmut is currently in ruins, having been the focal point of **Russian** assaults and a site of dogged defence by the **Ukrainian** military.

5. (b)

Statement 1 is not correct: Under limits of the territorial sea every State has the right to establish the breadth of its territorial sea up to a limit not exceeding **12 nautical miles**, measured from baselines determined in accordance with UNCLOS

Statement 2 is correct: India became a signatory to the UNCLOS in 1982.

6. (a)

Raisina Dialogue

- **About:**
 - The Raisina Dialogue is India's premier foreign policy conference on geopolitics and geoeconomics committed to addressing the most challenging issues facing the global community. **Hence statement 1 is correct.**
 - The first session was held in 2016.

- Raisina Dialogue of 2023 was the eighth edition of the Dialogue held in New Delhi. **Hence statement 3 is incorrect.**
- It is **organized on the lines of the Shangri La Dialogue** which takes place annually in Singapore and is co-hosted by the Ministry of External Affairs (MEA) and the Observer Research Foundation (ORF). **Hence statement 2 is incorrect.**
- **Raisina Hills:**
 - The name of the dialogue is derived from Raisina Hills, the **place where India's seat of power resides.**
 - It is an area in Delhi where the Rashtrapati Bhavan, the Prime Minister's Office (PMO) and other important government offices are situated.

7. (b)

To counter China's dominance of the Indo-Pacific supply chain, the Trade Ministers of **India, Japan, and Australia** have formally launched the Supply Chain Resilience Initiative (SCRI). It aims to attract foreign direct investment to turn the Indo-Pacific into an "economic powerhouse" and to build a mutually complementary relationship among partner countries.

8. (a)

Statements 1 is correct: The Shanghai Cooperation Organization (SCO) is a permanent intergovernmental international organisation of Eurasian Nations with a secretariat in Beijing. It is a political, economic and military organisation that aims at maintaining peace, security and stability in the region. Shanghai Five emerged in 1996 from a series of border demarcation and demilitarization talks between 4 former USSR republics and China. Kazakhstan, China, Kyrgyzstan, Russia and Tajikistan were members of the Shanghai Five. With the accession of Uzbekistan in 2001, the Shanghai Five was renamed the SCO.

Statement 2 is not correct: The SCO Charter was signed in 2002 and entered into force in 2003. India and Pakistan both were initially observer states. Both were given full membership in 2017. 2021 SCO summit in Dushanbe agreed for Iran to join the SCO.

Belarus has also begun the membership process for SCO. The SCO currently comprises of eight Member States (China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan), four Observer States interested in acceding to full membership (Afghanistan, Belarus, Iran, and Mongolia) and six "Dialogue Partners" (Armenia, Azerbaijan, Cambodia, Nepal, Sri Lanka).

9. (b)

Statement 1 is not correct: AUKUS is a trilateral security pact between Australia, the United Kingdom, and the United States. It aims to arm Australia with at least three Virginia class and AUKUS class conventionally armed nuclear submarines.

- The Five Eyes is an intelligence alliance comprising Australia, Canada, New Zealand, the United Kingdom, and the United States. **Hence statement 2 is Correct.**

10. (a)

The ICC is **headquartered in The Hague, Netherlands**. It was established under a **1998 treaty** called the "**Rome Statute**". **Hence statement 1 is correct.**

- **Difference between ICC & ICJ:** Unlike the International Court of Justice (ICJ), which deals with countries and inter-state disputes, the ICC **prosecutes individuals**. **Hence statement 2 is correct.**
- **Members:** Presently, **123 countries** are party to the Rome Statute, including Britain, Japan, Afghanistan, and Germany.
 - However, the USA has kept its distance, maintaining that ICC should not exercise jurisdiction over citizens of countries that are not a party to it.
 - Similarly, **India and China** have also abstained from membership. **Hence statement 3 is not correct.**

11. (a)

In News: India has launched a strong protest against the United Kingdom over the vandalization incident at the Indian High Commission in London

- Dy High Commissioner was reminded in this regard of the basic obligations of the UK Government under the Vienna Convention.”

Statement 1 is correct: Vienna Convention on Diplomatic Relations (1961) “provides a complete framework for the **establishment, maintenance, and termination of diplomatic relations on a basis of consent between independent sovereign States**”

Statement 2 is not correct: The Vienna Convention on Diplomatic Relations entered into force on April 24, 1964 and is **nearly universally ratified, with Palau and South Sudan being the exceptions**

12. (b)

Prime Ministers of India and Bangladesh recently inaugurated the **India-Bangladesh Friendship Pipeline (IBFPL)**.

- The pipeline runs from the **Siliguri-based marketing terminal** of the **Numaligarh Refinery Limited (NRL)** to the **Parbatipur depot** of Bangladesh Petroleum Corporation (BPC). **Hence statement 1 is not correct.**
- **Fuel transport:** It will be used to supply diesel from India to Bangladesh. **Hence statement 2 is correct.**
- It is the first cross-border energy pipeline between the two countries. **Hence statement 3 is correct.**

13. (d)

The founding members (5) of Shanghai Cooperation Organisation (SCO) were **China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan.**

- Uzbekistan joined the SCO in 2001.
- India joined SCO in 2017.
- Iran will join SCO in 2023.

■ ■ ■ ■

SCIENCE & TECHNOLOGY

1. The terms like Reinforcement Learning, sentiment analysis, Natural language processing are associated with which of the following fields?
 - (a) Artificial Intelligence
 - (b) Education
 - (c) Stock Markets
 - (d) Linguistics
2. Consider the following statements with respect to the Knowledge Involvement in Research Advancement through Nurturing (KIRAN) Scheme:
 1. It is implemented by Department of Science and Technology (DST).
 2. It aims to bring gender parity in the Science & Technology sector by inducting more women talent in the research & development.
 3. Under this scheme, the Government reserves a certain portion of seats only in R&D domain for women.Which of the statements given above is/are correct?
 - (a) 1 and 2 only
 - (b) 3 only
 - (c) 1 and 3 only
 - (d) 1, 2 and 3
3. Consider the following statements:
 1. In controlled entry debris footprint cannot be positioned over an uninhabited region.
 2. Space debris encompasses only artificial (human-made) orbital debris.Which of the statements given above is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
4. Consider the following statements:
 1. Lunar missions have operated on the time of the country that launched them.
 2. The International Space Station (ISA) has its own time zone.Which of the statements given above is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
5. With reference to Project Gateway, consider the following statements:
 1. It will be humanity's first space station in lunar orbit to support NASA's deep space exploration plans.
 2. It will be a critical platform for developing technology and capabilities to support Moon and Mars exploration in the coming years.
 3. It will also support the Human Landing System (HLS) that will send astronauts to the Moon.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
6. The upcoming Digital India Act, 2023 is a broad overhaul of which of the following Acts?
 - (a) Information Technology Act, 2000
 - (b) The Prevention of Corruption Act, 1988
 - (c) Benami Transactions (Prohibition) Amendment Act, 2016
 - (d) Companies Act, 2013

7. iCET (Initiative on Critical and Emerging Technologies) is signed between which of the following countries?
- (a) India –Japan (b) India -France
(c) India –Australia (d) India -USA

8. With reference to non-communicable diseases (NCDs), consider the following statements:
1. These are short duration diseases also known as chronic diseases.
 2. Unhealthy diet, lack of physical activity, and use of tobacco and alcohol are the major contributing factors.

Which of the statements given above is/are **not correct**?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
9. With reference to ChatGPT, consider the following statements:
1. It is an artificial-intelligence chatbot which interacts in a conversational way.
 2. It works on the Generative Pre-trained Transformer technology.
 3. ChatGPT-3 could also accept images as inputs along with textual input and output.

Which of the statements given above is/are correct?

- (a) 1 and 2 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3
10. Consider the following statements:
1. Earth has a much denser atmosphere than Venus.
 2. VERITAS is an upcoming mission from NASA to map the surface of planet Venus.

Which of the above given statements is/are **not correct**?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
11. Consider the following pairs:

Name	Vaccine Type
1. Moderna	viral vector vaccine
2. Johnson & Johnson	mRNA vaccine
3. Covaxin	inactivated Virus vaccine
4. Corbevax	recombinant protein vaccine

How many pair given above are correctly matched?

- (a) Only one pair (b) Only two pairs
(c) Only three pairs (d) All four pairs
12. Consider the following statements regarding Digital India:
1. e-Kranti is an essential part of the Digital India initiative.
 2. e-Kranti aims to Transform e-Governance for Transforming Governance.
 3. PM SVANidhi scheme aims to improve the penetration of digital transactions.

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

13. Beamforming and Carrier Aggregation are terms associated with which of the following Industries?

- (a) Military Applications
- (b) Telecommunications
- (c) Agriculture
- (d) Consumer goods

14. Which of the following are bacterial infections?

- 1. Anthrax
- 2. Hepatitis A
- 3. Leprosy
- 4. Cryptococcosis
- 5. Tuberculosis

Select the correct answer using the codes given below:

- (a) 1, 2 and 3 only
- (b) 1, 3 and 5 only
- (c) 1, 2, 4 and 5 only
- (d) 1, 2, 3, 4 and 5

15. Consider the following statements:

- 1. Isoniazid, rifampicin and Bedaquiline are used in the treatment of Leprosy.
- 2. India has the National TB Elimination Programme to meet the goal of ending the TB epidemic by 2030.

Which of the statements given above is/are **not correct**?

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

16. With reference to Biotransformation Technology, consider the following statements:

- 1. Plastic that has escaped refuse streams can fully biodegrade in the natural environment by using this Technology.
- 2. It is jointly developed by India and the United States of America (U.S.A).

Which of the statements given below is/are correct?

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

17. With respect to the Intergovernmental Panel on Climate Change (IPCC), consider the following statements:

- 1. It is an intergovernmental body of the United Nation (UN) that publishes its own original research regarding climate change.
- 2. It was established by the United Nations General Assembly (UNGA) and the World Meteorological Organization (WMO) in 1988.
- 3. It won the 2007 Nobel Peace Prize.

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, 2 and 3

18. Consider the following statements with reference to the Marburg virus disease:

- 1. It is a highly virulent disease with a fatality ratio of up to 88%.
- 2. It has similar symptoms as that of the Ebola virus disease.
- 3. In severe cases the appearance of the patients is described as ghost-like.

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.

EXPLANATIONS

1. (a)

Option A is correct: Reinforcement learning: A method of teaching AI without specific metrics, encouraging the model to test different scenarios rather than find a single answer. Based on human feedback, the model can then manipulate the next scenario to get better results.

Sentiment analysis: It is the use of natural language processing, text analysis, computational linguistics, and biometrics to identify, extract, quantify, and study subjective information.

Natural language processing (NLP): The umbrella term for any machine's ability to perform conversational tasks, such as recognizing what is said to it, understanding the intended meaning and responding intelligibly.

2. (a)

Statement 1 is correct: The Department of Science and Technology (DST) implements 'Knowledge Involvement in Research Advancement through Nurturing (KIRAN)' Scheme to provide various career opportunities to women scientists and technologists.

Statement 2 is correct: It is primarily aimed to bring gender parity in the Science & Technology sector by way of inducting more women in the research & development domain.

Statement 3 is not correct: It supports Women in the age group 27 to 57 years by providing fellowship support ranging from Rs. 25000 to 55000 for continuing higher education in Science and Technology after a break in career.

3. (d)

Statement 1 is not correct Controlled entry normally is achieved by using more propellant with a larger propulsion system to cause the spacecraft to enter the atmosphere at a steeper flight path angle. The vehicle will then enter the atmosphere at a more precise latitude and longitude, and the debris footprint can be positioned over an uninhabited region, generally located in the ocean.

Statement 2 is not correct Space debris encompasses both natural meteoroid and artificial (human-made) orbital debris. Meteoroids are in orbit about the sun, while most artificial debris is in orbit about the Earth (hence the term "orbital" debris).

- Orbital debris is any human-made object in orbit about the Earth that no longer serves a useful function. Such debris includes nonfunctional spacecraft, abandoned launch vehicle stages, mission-related debris, and fragmentation debris.

4. (a)

Statement 1 is correct Lunar missions have operated on the time of the country that launched them. But with several lunar explorations heading for the launchpad, the European Space Agency has deemed the current system unsustainable.

Statement 2 is not correct: The International Space Station (ISS) does not have its own time zone. Instead, it runs on Coordinated Universal Time, or UTC, which is based on time kept by atomic clocks. This helps ease the time difference between NASA and the Canadian Space Agency, as well as other space partners in Russia, Japan and Europe.

5. (d)

A small, human-tended **space station orbiting the Moon** that will provide extensive capabilities to support NASA's Artemis campaign.

- Gateway will be humanity's **first space station in lunar orbit** to support NASA's deep space exploration plans, along with the **Space Launch System (SLS) rocket, Orion spacecraft, and the Human Landing System (HLS)** that will send astronauts to the Moon. Hence **Statement 1 and 3 are correct.**
- Gateway's capabilities for supporting sustained exploration and research in deep space include **docking ports for a variety of visiting spacecraft, space for crew to live and work, and on-board science investigations to study heliophysics, human health, and life sciences, among other areas.**
- Gateway will be a critical platform for developing technology and capabilities to support **Moon and Mars exploration in the coming years.** Hence **Statement 2 is correct.**

6. (a)

Digital India Act, 2023

- **Remodelling of the IT Act:**
 - The **Digital India Act, 2023** is a broad overhaul of the **Information Technology Act, 2000.**
- **Covering new and complex issues:**
 - The Digital India Act would cover provisions such as **Artificial Intelligence (AI), deepfakes, cybercrime, competition issues** among internet platforms, and data protection.
 - The new law would seek to address "**new complex forms of user harms**" that have emerged in the years since the IT Act's enactment, such as **catfishing, doxxing, trolling, and phishing.**
- **Reconsideration of the 'safe harbour' provision:**
 - The government is reconsidering a key aspect of cyberspace '**safe harbour**', which is the principle that '**intermediaries**' on the internet are not responsible for what third parties post on their website.
 - This is the principle that allows social media platforms to **avoid liability for posts made by users.**

7. (d)

Option D is correct: The iCET (Initiative on Critical and Emerging Technologies) is a partnership between **India and the US** to work together in developing important technologies.

- It involves collaboration in a range of areas including quantum computing, semiconductors, 5G and 6G wireless infrastructure, and civilian space projects such as lunar exploration.

8. (a)

Statement 1 is not correct: NCDs, also known as **chronic diseases**, tend to be of **long duration** and are the result of a combination of **genetic, physiological, environmental and behavioural factors.**

Statement 2 is correct: The major NCDs share **four behavioral risk factors-** unhealthy diet, lack of physical activity, and use of tobacco and alcohol. Factors contributing to the rise of NCDs also include ageing, rapid unplanned urbanization and globalization.

9. (a)

Statement 1 is correct ChatGPT is an **artificial-intelligence chatbot** developed by San Francisco-based AI research company **OpenAI in 2022.**

- It is a **trained model** which interacts in a **conversational way.** The dialogue format makes it possible to answer followup questions, admit its mistakes, challenge incorrect premises, and reject inappropriate requests.

Statement 2 is correct The technology that underlies ChatGPT is referenced in the second half of its name, GPT, which stands for **Generative Pre-trained Transformer**.

- Transformers are **specialized algorithms** for finding **long-range patterns** in sequences of data.

Statement 3 is not correct GPT-4 can be fed images and asked to output information accordingly whereas GPT-3 and ChatGPT's GPT-3.5 were limited to textual input and output.

10. (a)

Statement 1 is not correct: Venus is Earth's closest planetary neighbour which is similar in structure but slightly smaller than Earth, it is the second planet from the sun. Therefore, Venus has been called Earth's twin. **Venus has an atmosphere 50 times denser than Earth's.** Venus is wrapped in a thick, toxic atmosphere filled with carbon dioxide that traps in heat.

Statement 2 is correct: VERITAS (Venus Emissivity, Radio Science, InSAR, Topography, and Spectroscopy) is an **upcoming mission** from NASA's Jet Propulsion Laboratory (JPL) to map the **surface of planet Venus** in high resolution.

11. (b)

- **Pair 1 is not correct:** Pfizer and Moderna vaccines developed in the US are **mRNA vaccines**. mRNA vaccines will carry the molecular instructions to make the protein in the body through a synthetic RNA of the virus.
- **Pair 2 is not correct:** Johnson & Johnson, Sputnik V and AstraZeneca-Oxford University vaccine is a kind of **viral vector vaccine**. Such vaccines use a harmless virus to smuggle the instructions for making antigens from the disease-causing virus into cells. By infecting cells and instructing them to make large amounts of antigen, which then trigger an immune response, the vaccine mimics what happens during natural infection
- **Pair 3 is correct:** Bharat Biotech's **Covaxin is an inactivated vaccine**. In this type, an inactivated live virus is used to create an immune response against the disease.
- **Pair 4 is correct:** Corbevax is a **recombinant protein subunit vaccine** it is made up of a specific part of SARS-CoV-2 — the spike protein on the virus's surface to trigger an immune response.

12. (d)

Statement 1 is correct: e-Kranti is an essential pillar of the **Digital India initiative**.

- The mission of e-Kranti is to ensure a Government wide transformation by delivering all Government services electronically to the citizens through integrated and interoperable systems via multiple modes while ensuring efficiency, transparency and reliability of such services at affordable costs. **Hence, Statement 2 is correct.**
- **Statement 3 is correct:** PM SVANIDHI is a Central Sector Scheme by Ministry of Housing and Urban Affairs with the following objectives:
 - (i) To facilitate working capital loan up to `10,000;
 - (ii) To incentivize regular repayment; and
 - (iii) To reward **digital transactions**

13. (b)

Beamforming and Carrier Aggregation are terms associated with **telecommunications**.

- Beamforming refers to usage of increased number of antennas to aim signals directly toward a specific device, group of devices or location.

- Cellular data is sent using radio frequencies. The wider the channel bandwidth, the more data can be sent. Carrier aggregation combines multiple channels of spectrum together to create one super channel, meaning greater capacity and faster speeds.

14. (b)

Anthrax is a **zoonotic disease** caused by gram-positive, rod-shaped bacteria known as **Bacillus anthracis**.

- Hepatitis** means inflammation of the liver. It is caused by **Hepatitis A virus**.
- Leprosy** is caused by the bacteria **Mycobacterium Lepae**.
- Cryptococcosis** is a disease caused by the yeast-like fungus, *Cryptococcus neoformans*. The fungus is found frequently in the environment, particularly in pigeon droppings, nesting places and soil, especially if it is contaminated with pigeon faeces.
- Tuberculosis** is caused by bacteria **Mycobacterium tuberculosis**.

15. (c)

Statement 1 is not correct: *Mycobacterium tuberculosis*, the bacteria that cause tuberculosis (TB) can develop resistance to the antimicrobial drugs used to cure the disease. TB is initially treated with **isoniazid** and **rifampicin**. If the bacteria develops resistance to them, then **Bedaquiline** is used.

Statement 2 is not correct: **National TB Elimination Programme** is to meet the goal of ending the TB epidemic by 2025 in India, five years ahead of the Sustainable Development Goals (SDG) for 2030.

16. (a)

In News: A UK-based startup claims to have developed a Biotransformation Technology.

Statement 1 is correct: Biotransformation Technology is a novel approach to ensure plastics that escape refuse streams are processed efficiently and broken down.

- the technology would digest the plastic packaging waste naturally with the help of microbes and biodegrade the waste without leaving behind any microplastics.
- It could alter the state of plastics and make them biodegradable without leaving behind any microplastics.
- It ensures polyolefins fully biodegrade in an open environment causing no microplastics.

Statement 2 is not correct: Biotransformation Technology was co-developed by the Imperial College in London, UK, and a Britain-based startup, Polymateria.

17. (c)

- Statement 1 is not correct:** The IPCC informs governments about the state of knowledge of climate change. It does this by examining all the relevant scientific literature on the subject. **The IPCC does not conduct its own original research.**
- Statement 2 is not correct:** It was set up in 1988 by the **World Meteorological Organization** and **United Nations Environment Programme** to provide policymakers with regular assessments of the scientific basis of climate change.
- Statement 3 is correct:** The IPCC shared the 2007 Nobel Peace Prize with Al Gore for contributions to the understanding of climate change.

18. (d)

Statement 1 is correct: Marburg is a **highly virulent disease** that causes **hemorrhagic fever**, with a fatality ratio of up to 88%.

Statement 2 is correct: It is in the same family as the virus that causes **Ebola virus disease** and they show **similar symptoms**.

Statement 3 is correct: Severe watery diarrhoea, abdominal pain and cramping, nausea and vomiting can begin on the third day.

- The appearance of patients at this phase has been described as showing “**ghost-like**” drawn features, deep-set eyes, expressionless faces and extreme lethargy.

19. (b)

Statement 1 is correct: OneWeb Constellation is a **satellite-based network** that aims to provide high-speed, low-latency internet connectivity worldwide.

Statement 2 is not correct: It is a collaborative project between the **UK-based OneWeb Group and the Indian Space Research Organisation (ISRO)**, in partnership with **NewSpace India Ltd(NSIL)**.

Statement 3 is not correct: The satellites are placed in **low Earth orbit (LEO)** and complete a **full trip around the Earth in 109 minutes**.

Statement 4 is correct: The constellation will **bring secured solutions not only** to enterprises but also to towns, villages, municipalities, and schools, including the **hardest-to-reach areas across India**.

20. (d)

- **Hepatitis** is caused Infections of the liver from a virus (hepatitis A, hepatitis B, hepatitis C, hepatitis D, and hepatitis E) or a Viral parasite.
- **Jaundice** is a yellow color in the skin, mucous membranes, or eyes. The yellow color comes from bilirubin, a byproduct of old red blood cells. Jaundice is a sign of other diseases, it is often a sign of a problem with the liver, gallbladder, or pancreas.
- **Malaria** is a life-threatening disease caused by Plasmodium parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes.
- **Tuberculosis (TB)** is caused by a bacterium called Mycobacterium tuberculosis. BCG vaccine protects against tuberculosis. It is provided to children under Mission Indradanush.

21. (d)

- **Statement 1 is not correct:** The NPPA was set up as an attached office of the **Department of Chemicals and Petrochemicals (now Department of Pharmaceuticals since July, 2008)** under the **Ministry of Chemicals and Fertilizers 1997**.
- **Statement 2 is not correct:** Drugs listed under National List of Essential Medicines (NLEM) known as scheduled drugs are regulated by National Pharmaceutical Pricing Authority (NPPA). It makes changes based on wholesale price index-based inflation.
 - The manufacturer of non-scheduled drugs (drugs not under direct price control) is not required to take price approvals from NPPA for such drugs. However, NPPA is required to monitor the prices of such drugs and take corrective measures where warranted and their includes the power to fix and regulate such prices.

22. (c)

Statement 1 is correct: In the piezoelectric effect, a body develops an electric current when it is squeezed. The piezoelectric effect was **discovered in 1880, in quartz**.

Statement 2 is correct: Quartz is the most famous piezoelectric crystal. Quartz is silicon dioxide (SiO_2). The quartz crystal consists of silicon and oxygen atoms at the four vertices of a three-sided pyramid; each oxygen atom is shared by two pyramids. These pyramids repeat themselves to form the crystal.

Statement 3 is not correct: For the first time, scientists have reported evidence of the **piezoelectric effect** in liquids. The reason the piezoelectric effect has only been expected in solids thus far is that the body being squeezed needs to have an organised structure, like the pyramids of quartz. Liquids don't have such structure; instead, they take the shape of their container.

Statement 4 is correct: It is used in this capacity in analog wristwatches and clocks. Such crystals are also used in **cigarette lighters, electric guitars, TV remote controls, audio transducers**, and other instruments where converting mechanical stress to a current is useful.

23. (a)

Statement 1 is correct: Uranium is a chemical element with symbol U and atomic number 92. The most common isotopes in natural uranium are **uranium-238** (which has 146 neutrons and accounts for over 99% of uranium on Earth) and **uranium-235** (which has 143 neutrons).

Statement 2 is not correct: **Uranium-235** is the **only naturally occurring** fissile isotope, which makes it widely used in nuclear power plants and nuclear weapons.

24. (c)

Statement 1 is correct: Rare diseases (also called "Orphan" diseases) are broadly defined as diseases that infrequently occur in a population. Examples: Lysosomal Storage Disorders (LSD), Pompe disease, cystic fibrosis, muscular dystrophy, spina bifida, **haemophilia** etc.

Haemophilia is usually an inherited bleeding disorder in which the blood does not clot properly. This can lead to spontaneous bleeding as well as bleeding following injuries or surgery. Blood contains many proteins called clotting factors that can help to stop bleeding.

Statement 2 is correct: Those who are suffering from rare diseases listed under Group 1 will have financial support under the umbrella scheme of **Rashtriya Arogya Nidhi**.

■■■■

ENVIRONMENT & ECOLOGY

1. With reference to the Seahorse, a type of marine fish, which of the following statements is/are correct?
1. They are mainly found in the deep waters of tropical climates across the world.
 2. Seahorses are good swimmers and can migrate to new habitats for successful maintenance of their population.
 3. They have been used in Chinese traditional medicine.

Select the correct answer using the codes given below:

- (a) 1 and 2 only
 - (b) 3 only
 - (c) 1 and 3 only
 - (d) 1, 2 and 3
2. In India, the use of tetracycline, glycopeptides, and chloramphenicol is viewed with apprehension in relation to their effect on the environment. These chemicals are used as:
- (a) Pesticides in agriculture
 - (b) Veterinary antibiotics
 - (c) Fruit-ripening agents
 - (d) Plant Growth regulators in Agriculture
3. According to IUCN, which of the following vulture species is/are critically endangered?
1. Oriental White-backed vulture
 2. Slender-Billed vulture
 3. Red-Headed vulture

Select the correct answer using the code given below:

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

4. Consider the following pairs:

Wildlife Sanctuary/Reserves

State

- | | |
|---------------------------------------|------------|
| 1. Sathyamangalam Tiger Reserve (STR) | Tamil Nadu |
| 2. Nagerhole Tiger Reserve (NTR) | Kerala |
| 3. Bandipur Tiger Reserve (BTR) | Karnataka |
| 4. Wayanad Wildlife Sanctuary (WWS) | Telangana |

Which of the pairs given above are correctly matched?

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

5. Which of the following can act as Indicator Species?

1. The Wood Stork
2. Eurasian Otters
3. Frogs
4. Lichen

Select the correct answer using the codes given below:

- (a) 1 and 2 only
- (b) 2 only
- (c) 1, 2 and 3 only
- (d) All of the above

6. With reference to the National Institute of Ocean Technology (NIOT), consider the following statements:
1. It is an autonomous organisation under the Ministry of Environment, Forest and Climate Change.
 2. It aims to develop reliable indigenous technologies for harvesting of non-living and living resources in the Indian Exclusive Economic Zone (EEZ).

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) None

7. With reference to the Deep Ocean Mission (DOM), consider the following statements:
1. It is under the stewardship of the Ministry of Science and technology.
 2. It aims to support the Blue Economy Initiatives of the Government of India.
 3. The mission focuses on developing Deep ocean electricity generation to make use of India's long coastline.

Which of the statements given above is/are correct?

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

8. With reference to Western Ghats, consider the following statements:
1. They are spread across Five states of the country.
 2. Western Ghats Ecology Expert Panel (WGEEP) recommended the constitution of a Western Ghats Ecology Authority (WGEA).

Which of the statements given above is/are correct?

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

9. With reference to the Horseshoe Crab, consider the following statements:
1. They are mainly freshwater Arthropods belonging to the family Limulidae.
 2. *Limulus polyphemus* is one of the species found in the coastal waters of India.
 3. They have bright blue blood which is used to test vaccines, drugs and medical devices.

Which of the statements given above are **not correct**?

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

10. With reference to Raccoon Dogs, consider the following statements:
1. They belong to the canid family and are closely related to foxes.
 2. They are only found in parts of China and Japan.
 3. The IUCN Red List has listed them as Critically Endangered.

Which of the statements given above are **not correct**?

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

11. With reference to House Sparrow consider the following statements:
1. It is native to Eurasia and North Africa and inhabits all the continents.
 2. It is listed Vulnerable on the Red List of the International Union for Conservation of Nature [IUCN].
 3. In 2012, it was declared the state bird of New Delhi.

Which of the above given statements are **not correct**?

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

12. Consider the following statements:

1. Global Initiative on Sharing All Influenza Data (GISAID) is an initiative by the UN for sharing of genome sequences.
2. An organism's DNA is made up of four bases called Adenine, Cytosine, Guanine, and Uracil.

Which of the statements given above is/are correct?

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

13. Consider the following statements:

1. The Kerala government has announced the State's first waste-to-energy project.
2. Waste-to-energy projects use recyclable dry waste to generate electricity.
3. The Waste to Wealth Mission is the mission undertaken by Ministry of Environment.
4. The biodegradable organic waste cannot be converted into organic compost or biogas.

Which of the statements given above are **not correct**?

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

14. Recently the report "Groundwater: A Valuable but Diminishing Resource" was published by which of the following?

- (a) Watershed Organisation Trust (WOTR)
- (b) Jal Shakti Ministry
- (c) Parliamentary Standing Committee on Water Resources
- (d) UN Water

15. Consider the following statements regarding the High Seas Treaty:

1. It is also referred to as the 'Paris Agreement for the Ocean'.
2. It will work as an implementation agreement under the UNCLOS.
3. The treaty is not legally binding on member countries.

Which of the statements given above is/are correct?

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

16. With reference to Sarus Crane, consider the following statements:

1. It is the world's tallest flying bird.
2. It is classified as vulnerable (VU) on the IUCN Red list of threatened species.
3. It is the State bird of Uttar Pradesh.

Which of the statements given above is/are correct?

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

EXPLANATIONS

1. (b)

Statement 1 is not correct: Seahorses are a type of marine fish that are named for their distinctive head and neck, which resemble those of horses. Generally, found in **shallow tropical and temperate waters** throughout the world.

Statement 2 is not correct: Seahorses are **poor swimmers** but migrate by rafting clinging to floating substrata such as macroalgae or plastic debris for dispersal by ocean currents – to new habitats for successful maintenance of their population.

Statement 3 is correct: They are declining due to the **overexploitation for traditional Chinese medicines and as ornamental fish**.

2. (b)

Option B is correct: Tetracycline, glycopeptides, and chloramphenicol are an antibiotic used to treat certain **bacterial infections** when these are released into the soil through dung and urine, they alter the microbial communities in soil in ways that are detrimental for sequestering carbon resulting in lower carbon storage in soil.

3. (d)

India is home to **nine species of Vulture** four species namely **Oriental White-backed Vulture, Long-billed Vulture, Slender-billed Vulture and Red-headed Vulture** are **Critically endangered** as per IUCN.

- Alarmed at the 96% decline in India's vulture population between 1993 and 2003 the central government put up **Action Plan for Vulture Conservation** for the first time in 2006 and the ongoing plan for 2020-2025.

4. (b)

Pair 1 is correctly matched Sathyamangalam Tiger Reserve (STR) is located in the State of **Tamil Nadu**.

Pair 2 is not correctly matched Nagerhole Tiger Reserve (NTR) is in **Karnataka**.

Pair 3 is correctly matched Bandipur Tiger Reserve (BTR) is located in **Karnataka**.

Pair 4 is not correctly matched Wayanad Wildlife Sanctuary (WWS) is in **Kerala**.

5. (d)

Indicator species are those plants/animals **which detect changes in the natural environment** and show negative or positive response to the changes.

- **Wood storks** are used to living in wetlands by consuming small freshwater fish. Any changes in the wetland environment is reflected in the **food source of woodstocks**. Which ultimately affects their distribution.
- **River otters** are indicators of **high quality water habitats**.
- **Frogs** have semi-permeable skin that needs to stay moist in order to breathe. Since they are susceptible to consuming chemical pollutants in their water, their skin makes them **bioindicators** for the health of their environment.
- **Lichens** are a **symbiotic partnership** of a fungus and an alga. Lichens do not have roots or structures like other plants. Hence, they depend on the atmosphere for air and water. So, the **quality of ambience** reflects in the diversity of lichens.

6. (b)

- **Statement 1 is not correct:** The National Institute of Ocean Technology(NIOT) was established in **1993** as an autonomous society under the **Ministry of Earth Sciences** in India.
- **Statement 2 is correct:** NIOT aims to develop **reliable indigenous technologies** to solve various engineering problems associated with harvesting of non-living and living resources in India's exclusive economic zone, which is about two-thirds of the land area of India.

7. (b)

- **Statement 1 is not correct:** Deep ocean Mission is a five-year, Multi -crore Project being implemented in phases. **Ministry of Earth Sciences** is the nodal ministry implementing this multi-institutional ambitious mission.
- **Statement 2 is correct:** It is a mission mode project to support the **Blue Economy Initiatives of the Government of India**.
 - Blue Economy is the sustainable use of ocean resources for economic growth, improved livelihoods and jobs, and ocean ecosystem health.
- **Statement 3 is not correct:** Major components of deep sea missions like Development of Technologies for Sea Mining, and Deployment of Manned Submersibles are aimed at the sustainable usage of minerals (poly metallic nodules) available in the Sea bed, **not Electricity Generation**.

8. (b)

- **Statement 1 is not correct:** The Western Ghats are a 1600 km long mountain chain along the west coast of India running from the river Tapi in the north to Kanyakumari in the south. They pass through States of **Gujarat, Maharashtra, Goa, Karnataka, Kerala and Tamil Nadu (6 in number)**.
- **Statement 2 is correct:** The Ministry of Environment and Forests, Government of India, constituted, by an order dated 2010, a Western Ghats **Ecology Expert Panel (WGEEP)** headed by Prof. Madhav Gadgil. The committee proposed a **Western Ghats Ecology Authority to regulate activities in the area**.

9. (a)

Statement 1 is not correct: Horseshoe crabs are **marine and brackish water arthropods** of the family Limulidae and the only living members of the **order Xiphosura**.

Statement 2 is not correct: **Limulus polyphemus**, the Atlantic or American horseshoe crab, found along the Atlantic coast of the United States and the Southeast Gulf of Mexico.

Statement 3 is correct: A horseshoe crab's **bright blue blood** is used to **test vaccines**, drugs and medical devices to ensure that they aren't contaminated with dangerous bacterial toxins.

10. (b)

In News: A new analysis of genetic data collected from the Huanan Seafood Market in Wuhan, China, has linked coronavirus to **raccoon dogs**.

Statement 1 is correct: Raccoon dogs are neither dogs nor raccoons. They belong to the canid family and are closely related to foxes. They are the only canids that hibernate during the winter.

Statements 2 and 3 are not correct: Raccoon dogs are originally from East Asia and are commonly found in parts of **China, Korea, and Japan**, where they are known as tanuki. They are also found in Europe, where they were first brought in by fur traders in the 1920s. They are listed as the **Least Concern in The IUCN Red List** of Threatened Species.

11. (a)
Statement 1 is not correct: It is widespread across the world, inhabiting every continent, except Antarctica, China and Japan. It is native to Eurasia and North Africa.
Statement 2 is not correct: The house sparrow is listed as the **Least Concern** on the Red List of the International Union for Conservation of Nature (IUCN).
Statement 3 is correct: In 2012, the house sparrow was declared the **state bird of New Delhi** as part of a massive campaign to save and raise awareness about the species.
12. (d)
● **Statement 1 is not correct:** GISAID is a **public platform** started by the **World Health Organization (WHO)** in 2008 for countries to share genome sequences.
○ The GISAID Initiative promotes international sharing of all influenza viral sequences, related clinical and epidemiological data associated with human viruses, and geographical as well as species-specific data associated with avian and other animal viruses.
● **Statement 2 is not correct:** DNA, or deoxyribonucleic acid, is the hereditary material in humans and almost all other organisms. Nearly every cell in a person's body has the same DNA.
○ The information in DNA is stored as a code made up of four chemical bases: **adenine (A), guanine (G), cytosine (C), and thymine (T)**. In RNA thymine is replaced by Uracil.
13. (c)
Statement 1 is correct: Recently, the Kerala government has announced the **State's first waste-to-energy project** in Kozhikode.
Statement 2 is not correct: Waste-to-energy projects use **non-recyclable dry waste** to generate electricity. They increase power generation capacity and eases the solid waste management (SWM) burden.
Statement 3 is not correct: The Waste to Wealth Mission is one of the nine scientific missions of the **Prime Minister's Science, Technology, and Innovation Advisory Council (PMSTIAC)**.
Statement 4 is not correct: Solid waste in India is **55-60% biodegradable organic waste, 25-30% non-biodegradable dry waste; and around 15% silt, stones, and drain waste**. Biodegradable organic waste can be converted into organic compost or biogas.
14. (c)
The Parliamentary Standing Committee on Water Resources recently tabled the report, **"Groundwater: A Valuable but Diminishing Resource"**.
15. (b)
High Seas Treaty is also referred to as the **'Paris Agreement for the Ocean'**. Hence statement 1 is correct.
● The agreement was reached during the **Intergovernmental Conference (IGC) on Marine Biodiversity of Areas Beyond National Jurisdiction (BBNJ)**, and will work as an implementation agreement under the **UNCLOS**. Hence statement 2 is correct.
● Once adopted, the **treaty will be legally binding**. Hence statement 3 is incorrect.
16. (d)
Statement 1 is correct: The Sarus crane is the **world's tallest flying bird**. The birds are predominantly gray, with long, pale red legs. Their naked head is red, as is their neck.
Statement 2 is correct: They are classified as **vulnerable (VU)** on the IUCN Red list of threatened species.
Statement 3 is correct: It is the state bird of Uttar Pradesh.



MISCELLANEOUS

1. Which of the following statements is/are correct regarding Porter Prize 2023?
 1. The Union Health and Family Welfare Ministry has received the Porter Prize 2023.
 2. It is named after award-winning economist Michael E. Porter.Choose the correct answer from options given below
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
2. Consider the following statements:
 1. RRR became the first Indian feature film to win an Oscar.
 2. Bhanu Athaiya was the first person from India to win an Oscar.Which of the statements given above is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
3. With reference to Abel Prize, consider the following statements:
 1. It is named after the Norwegian mathematician Niels Henrik Abel.
 2. The prize is presented by the King of Norway.
 3. The Abel Committee is composed of five internationally recognised mathematicians.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

EXPLANATIONS

1. (c)
Statement 1 is correct: The Union Health and Family Welfare Ministry has received the Porter Prize 2023.
Statement 2 is correct: It is named after award-winning economist Michael E. Porter.
 - He has brought economic theory and strategy concepts to bear on many of the most challenging problems faced by corporations, economies and societies, including market competition and company strategy, economic development, the environment and healthcare.
 - He is also the most cited scholar today in economics and business.
2. (c)
In News: The **Elephant Whisperers**, a Tamil documentary, won the Oscar in the Best Documentary Short Film category at the **95th Academy Awards**.
Statement 1 is correct: **SS Rajamouli's RRR** became the **first Indian feature film** to win an Oscar. The film's '**Naatu Naatu**' soundtrack by **MM Keeravani** was awarded the **Best Original Song Award**
Statement 2 is correct: **Bhanu Athaiya** was the first person from India to win an Oscar. She won an Oscar in the Best Costume Design Category for the 1982 historical film **Gandhi**.

3. (d)

Statement 1 is correct: It is named after the Norwegian mathematician **Niels Henrik Abel** (1802-1829) and is one of the most coveted awards in mathematics.

Statement 2 is correct: The prize is awarded by the Norwegian Academy of Science and Letters and presented by **His Majesty King Harald**.

Statement 3 is correct: The choice of the Abel laureate is based on the recommendation by the **Abel Committee**, which is composed of five internationally recognised mathematicians.

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