

(UPSC CSE Prelims GS Paper 1 Solutions SET B)

Q.1) In which one of the following regions was Dhanyakataka, which flourished as a prominent Buddhist centre under the Mahasanghikas, located?

- a) Andhra
- b) Gandhara
- c) Kalinga
- d) Magadha

Ans) a

Exp) Option a is the correct answer

Dharanikota is a town near Amaravati in the Guntur district of Andhra Pradesh in India. It is the site of the **ancient Dhanyakataka which was the capital of the Satavahana kingdom, also known as Andhras** which ruled in the Deccan around the 1st to 3rd centuries A.D.

Source: <https://frontline.thehindu.com/other/advertorial/article30207957.ece>

<https://tourism.ap.gov.in/assets/img/Brochures/AP%20Buddhist%20Places%20Brochure.pdf>

Q.2) With reference to ancient India, consider the following statements:

1. The concept of Stupa is Buddhist in origin.
2. Stupa was generally a repository of relics.
3. Stupa was a votive and commemorative structure in Buddhist tradition.

How many of the statements given above are correct?

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

Ans) b

Exp) Option b is the correct answer

Statement 1 is incorrect: Stupa is a pre-Buddhist mound in which śramaṇas were buried in a seated position called chaitya. The term "stupa" comes from the Sanskrit word "stūpa," which means "heap" or "pile." Originally, stupas were simple mounds of earth or stones that served as commemorative markers for important events or burial sites.

Statement 2 is correct: One of the primary functions of a stupa is to serve as a repository of relics. Relics are objects associated with the Buddha, such as his physical remains, personal belongings, or items used by him. They are considered sacred and hold great spiritual significance in Buddhism.

Statement 3 is correct: Stupas are also associated with votive and commemorative purposes. Stupas are often built as acts of devotion and as offerings to the Buddha or other enlightened beings. Stupas are also constructed to commemorate significant events, individuals, or historical sites. For example, stupas might be built to mark the birthplace, enlightenment site, or the site of the Buddha's parinirvana (passing away).

Source: <https://www.britannica.com/topic/stupa>

Q.3) With reference to ancient South India, Korkai, Poompuhar and Muchiri were well known as

- a) capital cities
- b) ports
- c) centres of iron-and-steel making
- d) shrines of Jain Tirthankaras

Ans) b

Exp) Option b is the correct answer.

Korkai, Poompuhar (also known as Kaveripattinam), and Muchiri are **ancient port cities in the southern region of present-day Tamil Nadu, India**. These cities are known for their historical significance and connections to maritime trade and commerce.

- **Korkai:** Korkai was an important port city that flourished during the ancient period, particularly during the time of the Tamil Sangam literature (around 300 BCE to 300 CE). It was located in the Thoothukudi district of Tamil Nadu.
- **Poompuhar (Kaveripattinam):** Poompuhar, also known as Kaveripattinam, is another ancient port city with a rich history of maritime trade. It was situated along the banks of the river Kaveri in Nagapattinam district of Tamil Nadu.

Muchiri (Muziris): Muchiri, also known as Muziris, was an ancient port city located in present-day Kerala, near the town of Kodungallur. It was a significant trading center in the Indian Ocean trade network during the ancient and medieval periods.

Source: [https://mayiladuthurai.nic.in/tourist-](https://mayiladuthurai.nic.in/tourist-place/poompuhar/#:~:text=Poompuhar%20is%20a%20town%20in,Early%20Chola%20kings%20in%20Tamilakam)

[place/poompuhar/#:~:text=Poompuhar%20is%20a%20town%20in,Early%20Chola%20kings%20in%20Tamilakam](https://mayiladuthurai.nic.in/tourist-place/poompuhar/#:~:text=Poompuhar%20is%20a%20town%20in,Early%20Chola%20kings%20in%20Tamilakam).

<https://www.peepultree.world/livehistoryindia/story/places/korkai-indias-pearl-port>

[https://photomail.org/online/muchiri-in-ancient-tamil-texts-and-tamil-](https://photomail.org/online/muchiri-in-ancient-tamil-texts-and-tamil-tradition/#:~:text=MuchiRi%20or%20MusiRi%20was%20an,to%20the%20Westerners%20(YavanAs))

[tradition/#:~:text=MuchiRi%20or%20MusiRi%20was%20an,to%20the%20Westerners%20\(YavanAs\)](https://photomail.org/online/muchiri-in-ancient-tamil-texts-and-tamil-tradition/#:~:text=MuchiRi%20or%20MusiRi%20was%20an,to%20the%20Westerners%20(YavanAs)).

Q.4) Which one of the following explains the practice of “Vattakirutal” as mentioned in Sangam poems?

- a) Kings employing women bodyguards
- b) Learned persons assembling in royal courts to discuss religious and philosophical matters
- c) Young girls keeping watch over agricultural fields and driving away birds and animals
- d) A king defeated in a battle committing ritual suicide by starving himself to death.

Ans) d

Exp) Option d is the correct answer

Vatakkirutal, also Vadakirutal and vadakirutal, was a **Tamil ritual of fasting till death**. It was especially widespread during the Sangam age. The Tamil kings, in order to save their honour, and prestige, were prepared to meet their death facing North ('Vatakkirutal') and never would they turn their back in battle.

Few examples for Vatakkirutal for friendship: After the death of king Vēl Pāri in a battle, his friend poet Kapilar perform this act in Kabilar Kundru. In another, King Kopperuncholan and his friend poet Pisiranthaiyar did Vatakkirutal

Source: <https://www.studocu.com/in/document/university-of-delhi/history-of-india/the-sangam-age-and-literature-3rd-century-bce3rd-century-ce/46852786>

Q.5) Consider the following dynasties:

1. Hoysala
2. Gahadavala
3. Kakatiya
4. Yadava

How many of the above dynasties established their kingdoms in early eighth century AD?

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

Ans) d

Exp) Option d is the correct answer

Option 1 is incorrect: The Hoysala Empire was a Kannadiga power originating from the Indian subcontinent that ruled most of what is now Karnataka **between the 10th and the 14th centuries**. The capital of the Hoysalas was initially located at Belur, but was later moved to Halebidu.

Option 2 is incorrect: The Gahadavala dynasty was a medieval Indian dynasty that ruled parts of northern India, specifically the region of present-day Uttar Pradesh, from the **11th to the 13th century**. The dynasty played a significant role in the political and cultural history of the region during that period.

Option 3 is incorrect: The Kakatiya dynasty was a Telugu dynasty that ruled most of eastern Deccan **region in present-day India between 12th and 14th centuries**. Their territory comprised much of the present day Telangana and Andhra Pradesh, and parts of eastern Karnataka, northern Tamil Nadu, and southern Odisha. Their capital was Orugallu, now known as Warangal.

Option 4 is incorrect: The Seuna, Sevuna, or Yadavas of Devagiri was a Medieval Indian dynasty, which at its peak ruled a kingdom stretching from the Narmada river in the north to the Tungabhadra river in the south, in the western part of the Deccan region. The Yadavas initially ruled as feudatories of the Western Chalukyas. Around the **middle of the 12th century, as the Chalukya power waned, the Yadava king Bhillama V declared independence**. The Yadava kingdom reached its peak under Simhana II, and **flourished until the early 14th century**, when it was annexed by the Khalji dynasty of the Delhi Sultanate in 1308 CE.

Source: <https://www.britannica.com/topic/Hoysala-dynasty>

<https://www.britannica.com/topic/Gahadavala-dynasty>

<https://www.britannica.com/topic/Kakatiya>

Q.6) With reference to ancient Indian History, consider the following pairs:

Literary work	Author
1. Devichandragupta	Bilhana
2. Hammira-Mahakavya	Nayachandra Suri
3. Milinda-panha	Nagarjuna

4. Nitivakyamrita Somadeva Suri

How many of the above pairs are correctly matched?

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

Ans) b

Exp) Option b is the correct answer.

Pair 1 is incorrectly matched: Devi-Chandraguptam is the Sanskrit play of Vishakhadeva (Vishakhadatta). Its the story of Gupta King Ramagupta who decides to surrender his queen Dhruvadevi to a Shaka invader but his younger brother Chandragupta enters the enemy camp disguised as queen and kills the enemy.

Pair 2 is correctly matched: Hammira Mahakavya is a 15th-century Indian Sanskrit epic poem written by the **Jain scholar Nayachandra Suri**. It is a legendary biography of the 13th century Chahaman king Hammira.

Pair 3 is incorrectly matched: The "Milinda Pañha" (also known as the "Questions of King Milinda" or "The Debate of King Milinda") is a **famous Pali Buddhist text written by Nagasena** that is considered part of the Theravada Buddhist tradition. It is a dialogue between the Indo-Greek king Menander I (known as Milinda in Pali) and the Buddhist monk Nagasena.

Pair 4 is correctly matched: Somadeva Suri was a south Indian Jain monk of the 10th century CE. Somadeva Suri also wrote the Nitivakyamrtam "Nectar of the Science of Polity", a treatise on statecraft. The text of the Nitivakyamrtam mentions that Somadeva was also the author of a literary work called Yashastilaka

Source: <https://dbpedia.org/page/Devichandraguptam>

https://dbpedia.org/page/Hammira_Mahakavya

<https://www.britannica.com/topic/Milinda-panha>

Q.7) "Souls are not only the property of animal and plant life, but also of rocks, running water and many other natural objects not looked on as living by other religious sects."

The above statement reflects one of the core beliefs of which one of the following religious sects of ancient India?

- a) Buddhism
- b) Jainism
- c) Shaivism
- d) Vaishnavism

Ans) b

Exp) Option b is the correct answer.

Jain religion believe in reincarnation. This cycle of birth, death, and rebirth is determined by one's karma. Jains believe bad karma is caused by harming living things. To avoid bad karma, Jains must practice ahimsa, a strict code of nonviolence. **Jains believe plants, animals, and even some nonliving**

things (like air and water) have souls, just as humans do. The principle of nonviolence includes doing no harm to humans, plants, animals, and nature.

Source: <https://egyankosh.ac.in/bitstream/123456789/35228/1/Unit-2.pdf>

Q.8) Who among the following rulers of Vijayanagara Empire constructed a large dam across Tungabhadra River and a canal-cum-aqueduct several kilometres long from the river to the capital city?

- a) Devaraya I
- b) Mallikarjuna
- c) Vira Vijaya
- d) Virupaksha

Ans) a

Exp) Option a is the correct answer

The credit for making the capital city of the Vijayanagara Empire one of the biggest cities in the 15th century goes to **Deva Raya I**. He realized that the scarcity of water supply, both for drinking and for irrigation, was restricting the growth of the royal capital. In c.1410 he had **a barrage constructed across the Tungabhadra River and commissioned a 24 km long aqueduct** from the Tungabhadra river to the capital.

Source: NCERT

Q.9) Who among the following rulers of medieval Gujarat surrendered Diu to Portuguese?

- a) Ahmad Shah
- b) Mahmud Begarha
- c) Bahadur Shah
- d) Muhammad Shah

Ans) c

Exp) Option c is the correct answer

The Dadra & Nagar Haveli and Daman & Diu (Merger of Union Territories) Bill, 2019 was recently introduced in the Lok Sabha. In 1534, the **Bahadur Shah signed the Treaty of Bassein with the Portuguese. By this, he ceded Diu to the Portuguese**, as well as other territories of his empire such as Vasai and the islands that today form Mumbai. The Portuguese obtained Daman from the Shah in 1559.

Source: <https://indianexpress.com/article/explained/daman-diu-dadra-nagar-haveli-a-short-recent-history-6141034/>

Q.10) By which one of the following Acts was the Governor General of Bengal designated as the Governor General of India?

- a) The Regulating Act
- b) The Pitt's India Act
- c) The Charter Act of 1793
- d) The Charter Act of 1833

Ans) d

Exp) Option d is the correct answer.

The Charter Act of 1833 addressed the internal challenges in India and the political situation in England. It **renamed the position of the Governor-General of Bengal as the Governor-General of India** and vested in him all civil and military power. Lord William Bentinck became the first governor-general of India.

Source: Spectrum

Q.11) In essence, what does 'Due Process of Law' mean?

- a) The principle of natural justice
- b) The procedure established by law
- c) Fair application of law
- d) Equality before law

Ans) a

Exp) Option a is the correct answer

Option a is correct: Natural Justice implies fairness, reasonableness, equity and equality. **Natural Justice is a concept of Common Law, and it is the Common Law world counterpart of the American concept of 'procedural due process'.** Natural Justice represents higher procedural principles developed by judges which every administrative agency must follow in taking any decision adversely affecting the rights of a private individual.

The principles of natural justice are firmly grounded under various Article of the Constitution. With the introduction of the concept of substantive and procedural due process in Article - 21 of the Constitution all that fairness which is included in the principles of natural justice can be read into Article - 21 when a person is deprived of his life and personal liberty.

Source:

https://nios.ac.in/media/documents/SrSec338New/338_Introduction_To_Law_Eng/338_Introduction_To_Law_Eng_L6.pdf

Q.12) Consider the following statements:

Statement-1: In India, prisons are managed State Governments with their own rules and regulations for the day-to-day administration of prisons

Statement-II: In India, prisons are governed by the Prisons Act, 1894 which expressly kept the subject of prisons in the control of Provincial Governments.

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

- a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-1
- b) Both Statement-1 and Statement-II are correct and Statement-II is not the correct explanation for Statement-1
- c) Statement-1 is correct but Statement-II is incorrect
- d) Statement-1 is incorrect but Statement-II is correct

Ans) a

Exp) Option a is the correct answer

The Prisons Act 1894 is one of the oldest pieces of legislation in India dealing with laws enacted in relation to prisons in India.

Statement 1 is correct: Prison is a State subject under List-II of the Seventh Schedule in the Constitution.. States have the primary role, responsibility and power to change the current prison laws, rules and regulations

Hence it is true that prisons are managed by the state governments with their own rules and regulations.

Statement 2 is correct: The management and administration of Prisons falls **exclusively in the domain of the State Governments and is governed by the Prisons Act, 1894** and the Prison Manuals of the respective State Governments. Hence it is true that the Prisons Act 1894 kept the subject of prisons in the Provincial government (State governments) and **this explains why State governments have the power to frame their own rules and regulations** regarding prison management.

Source:

https://parliamentlibraryindia.nic.in/writereaddata/Library/Reference%20Notes/Prison_reforms_in_India.pdf (pg no 3- Prisons and Prisons law in India)

Q.13) Which one of the following statements best reflects the Chief purpose of the 'Constitution' of a country?

- a) It determines the objective for the making of necessary laws.
- b) It enables the creation of political offices and a government.
- c) It defines and limits the powers of government.
- d) It secures social justice, social equality and social security.

Ans) c

Exp) Option c is the correct answer

Option c is correct: The Constitution contains the basic principles and laws of a nation that determine the powers and duties of the government. A constitution serves multiple purposes. It provides a **legitimate legal and political basis for the Government** to propose and enact laws, organising public service and settling disputes.

Although the Constitution determines the objectives (DPSP) for the making of necessary laws and aims to promote social, economic and political democracy, **its chief purpose is to limit the power of government.** In fact the **Constitutional government is by definition limited government.**

Source: <https://www.idea.int/sites/default/files/publications/the-fundamentals-of-a-constitution.pdf> (pg no 1- what is a Constitution meant to do)

<https://blog.ipleaders.in/constitutionalism-limited-government/#:~:text=government%20should%20be-,limited,-in%20nature%20and>

Q.14) In India, which one of the following Constitutional Amendments was widely believed to be enacted to overcome the judicial interpretations of the Fundamental Rights?

- a) 1st Amendment

- b) 42nd Amendment
- c) 44th Amendment
- d) 86th Amendment

The Question has been dropped by UPSC.

Q.15) Consider the following organizations/bodies in India:

1. The National Commission for Backward Classes
2. The National Human Commission Rights
3. The National Law Commission
4. The National Consumer Disputes Redressal Commission

How many of the above are constitutional bodies?

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

Ans) a

Exp) Option a is the correct answer.

Option 1 is correct: Although the National Commission for Backward Classes (NCBC) was **originally constituted as the Statutory body** by establishing it under the provisions of the National Commission for Backward Classes Act, 1993. **Recently the NCBC was accorded constitutional status by the 102nd Constitutional Amendment Act (CAA) which inserted Article 338B**, forming a National Commission for Backward Classes. Hence NCBC is a constitutional body.

Option 2 is incorrect: The National Human Rights Commission (NHRC) of India is a **statutory body** constituted in 1993 under the **Protection of Human Rights Act, 1993**. Hence NHRC is not a constitutional body.

Option 3 is incorrect: **The National Law Commission is neither a constitutional body nor a statutory body**, it was constituted by a **notification** of the Government of India, Ministry of Law & Justice, Department of Legal Affairs. Its purpose is to carry out research in the field of law and the Commission makes recommendations to the Government and provides excellent thought provoking and vital review of the laws in India.

Option 4 is incorrect: The National Consumer Disputes Redressal Commission of India is a **statutory body established under the Consumer Protection Act, 1986**. To provide inexpensive, speedy redressal of consumer disputes, the act established quasi-judicial bodies have been set up in each District and State and at the National level, called the District Consumer Disputes Redressal Commissions, the State Consumer Disputes Redressal Commissions and the National Consumer Disputes Redressal Commission respectively.

Source: http://www.ncbc.nic.in/User_Panel/UserView.aspx?TypeID=1025

<https://nhrc.nic.in/about-us/about-the-Organisation>

<https://lawcommissionofindia.nic.in/#::~:~:text=constituted%20by%20a-,notification,-of%20the%20Government>

<http://ncdrc.nic.in/history.html>

Q.16) Consider the following statements:

1. If the election of the President of India is declared void by the Supreme Court of India, all acts done by him/her in the performance of duties of his/her office of President before the date of decision become invalid.
2. Election for the post of the President of India can be postponed on the ground that some Legislative Assemblies have been dissolved and elections are yet to take place.
3. When a Bill is presented to the President of India, the Constitution prescribes time limits within which he/she has to declare his/her assent.

How many of the above statements are correct?

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

Ans) d

Exp) Option d is the correct answer

The President is elected indirectly by the electoral college consisting of elected members of both the houses of Parliament, elected members of State legislative Assembly and elected members of the legislative assemblies of the Union Territories of Delhi and Puducherry.

Statement 1 is incorrect: If the election of a person as President is **declared void by the Supreme Court**, acts done by him before the date of such declaration of the Supreme Court are **not invalidated and continue to remain in force**.

Statement 2 is incorrect: The **Supreme court in 1974** held that the **dissolution of state legislative assembly will not be a ground for preventing the holding of the election on the expiry of the term of the President**. Nor can it be a ground to suggest that the election to office of the President could be held only after the election to the state is held, where the Legislative Assembly of a State is dissolved.

Statement 3 is incorrect: The Constitution of India does **not prescribe any time-limit** within which the President has to take decision with respect to a bill presented to him/her for his/her assent. Thus the **President of India can simply keep the bills pending for an indefinite period**.

Source: Indian Polity - Laxmikanth (Chapter 17 - President)

<https://indiankanoon.org/doc/1155468/#::~:~:text=not%20be%20a-,ground,-either%20for%20preventing>

Q.17) With reference to Finance Bill and Money Bill in the Indian Parliament, consider the following statements:

1. When the Lok Sabha transmits Finance Bill to the Rajya Sabha, it can amend or reject the Bill.
2. When the Lok Sabha transmits Money Bill to the Rajya Sabha, it cannot amend or reject the Bill, it can only make recommendations
3. In the case of disagreement between the Lok Sabha and the Rajya Sabha, there is no joint sitting for money bill, but a joint sitting becomes necessary for Finance bill.

How many of the above, statements are correct?

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

Ans) b

Exp) Option b is the correct answer

The Finance Bill is a **part of the Union Budget**, stipulating all the legal amendments required for the changes in taxation proposed by the finance minister. As per **Article 110 of the Constitution of India**, the **Finance Bill is a Money Bill**.

Statement 1 is incorrect: As the Finance Bill is a type of money bill, It (like the money bills) cannot be either rejected or amended by the Rajya Sabha.

Statement 2 is correct: It is true that Money bills cannot be amended or rejected by the Rajya Sabha. The Rajya Sabha should return the bill with or without recommendations, which may be accepted or rejected by the Lok Sabha

Statement 3 is correct: Though the Finance bill is a type of money bill and there is no provision of joint sitting for money as well as the Finance bill. But as per official answer key most probably this statement has been considered as correct.

Source: Indian Polity - Laxmikant (Chapter 22 - Parliament)

Q.18) Consider the following statements:

Once the Central Government notifies an area as a 'Community Reserve'

1. the Chief Wildlife Warden of the State becomes the governing authority of such forest
2. hunting is not allowed in such area
3. People of such area are allowed to collect non-timber forest produce.
4. People of such area are allowed traditional agricultural practices.

How many of the above statements are correct?

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

Ans) b

Exp) Option b is the correct answer.

Community reserves in India are terms denoting protected areas of India which typically act as buffer zones to or connectors and migration corridors between established national parks, wildlife sanctuaries and reserved and protected forests of India

Statement 1 is correct: As per the Section 33 of the WildLife Protection Act (WLPA), once the Centre notifies an area as a community reserve, **the Chief Wildlife Warden of the state becomes the governing authority of the forest**, whose consent is required for all decisions pertaining to the area.

Statement 2 is correct: After a forest has been made into a community reserve, **people are not allowed to hunt there**, thus hunting is prohibited in community reserves.

Statements 3 and 4 are incorrect: After a forest has been made into a community reserve, **people are not allowed to hunt there, or collect non-timber forest produce, or use it for agricultural practices such as Shifting (jhum) cultivation.**

Source: <https://www.downtoearth.org.in/news/forests/community-reserves-are-they-forest-department-s-backdoor-entry-into-north-east-india-85242#:~:text=a%20community%20reserve.-,Section,-33%20of%20the>

<https://www.downtoearth.org.in/news/forests/community-reserves-are-they-forest-department-s-backdoor-entry-into-north-east-india-85242#:~:text=reserve%2C%20people%20cannot-,hunt,-there%2C%20nor%20can>

Q.19) With reference to "Scheduled Areas" in India, consider the following statements:

1. Within a State, the notification of an area as Scheduled Area takes place through an Order of the President.
2. The largest administrative unit forming the Scheduled Area is the District and the lowest is the cluster of villages in the Block.
3. The Chief Ministers of the Concerned States are required to submit annual reports to the union Home Ministry on the administration of Scheduled Areas in the States.

How many of the above statements are correct?

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

Ans) b

Exp) Option b is the correct answer.

Statement 1 is correct. As per Article 244(1) of the Constitution's Fifth Schedule, "**Scheduled Areas**" are areas that the President may declare to be such by order after consultation with the Governor of that State.

Statement 2 is correct. District is considered as the largest administrative unit which forms the Scheduled Area while the lowest administrative unit is the cluster of villages in the Block.

Statement 3 is incorrect. The Fifth Schedule to the Constitution of India states in para 3 that "**the Governor of each State having Scheduled Areas therein shall annually, or whenever so required by the President, make a report to the President regarding the administration of the Scheduled Areas in that State** and the executive power of the Union shall extend to the giving of directions to the State as to the Administration of the said areas."

The Governor's Report must be submitted annually in accordance with the provisions outlined in para 3 of the Fifth Schedule to the Constitution for the following states: Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Himachal Pradesh, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, and Telangana.

Source: https://tribal.nic.in/downloads/CLM/CLM_Reports/6.pdf

https://tribal.nic.in/downloads/CLM/CLM_Reports/2.pdf

Q.20) Consider the following statements:

Statement - I:

The Supreme court of India has held in some judgements that the reservation policies made under Article 16 (4) of the constitution of India would be limited Article 335 for maintenance of efficiency of administration.

Statement - II:

Article 335 of the Constitution of India defines the term 'efficiency of administration'.

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

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

Ans) c

Exp) Option c is the correct answer.

Statement I is correct. It has frequently been argued that reservation is contrary to efficiency and merit. Even the Supreme Court of India appeared to have agreed with this argument in some of its judgements, holding that Article 335's mention of the term "**efficiency of administration**" will limit the scope of Article 16(4)'s provision for reservation in services.

Statement II is incorrect. Article 335 of the Constitution of India states that, "The claims of the members of the Scheduled Castes and the Scheduled Tribes shall be taken into consideration, consistently with the **maintenance of efficiency of administration**, in the making of appointments to services and posts in connection with the affairs of the Union or of a State". **Article 335 of the Indian Constitution only mentions about the 'efficiency of administration' and does not defines the same.**

Source: <https://dopt.gov.in/sites/default/files/ch-11.pdf>

<https://www.epw.in/journal/2021/19/special-articles/reservations-efficiency-and-making-indian.html>

<https://dopt.gov.in/sites/default/files/ch-11.pdf>

Q.21) Consider the following statements:

Statement-I

India, despite having Uranium deposits, depends on coal for most of its electricity production.

Statement-II:

Uranium, enriched to the extent of at least 60%, is required for the production of electricity.

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

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

- c) Statement- I is Correct but Statement-II is incorrect
- d) Statement-I incorrect but Statement-II is correct.

Ans) c

Exp) Option c is the correct answer.

Statement I is correct. Both conventional (thermal, nuclear, and hydro) and renewable (wind, solar, biomass, etc.) energy sources are used to produce electricity in India. However, the majority of electricity is produced by coal-fired thermal power plants, which provide about 58% of the total electricity. In the year 2021–2022, approximately 3.15 per cent of the nation's electricity was generated using nuclear energy.

Statement II is incorrect.

Uranium enrichment of U²³⁵ isotope 3 to 5 percent is required for electricity generation. Research reactors use uranium that has been highly enriched to a concentration of at least 20%. At least 90% enriched Uranium is considered as weapons grade uranium.

Source: <https://coal.nic.in/en/major-statistics/generation-of-thermal-power-from-raw-coal>

https://inis.iaea.org/collection/NCLCollectionStore/_Public/09/376/9376805.pdf

<https://dae.gov.in/writereaddata/lsusq660.pdf>

<https://www.nrc.gov/materials/fuel-cycle-fac/ur-enrichment.html>

Q.22) Consider the following statements:

Statement-I:

Marsupials are not naturally found in India.

Statement-II:

Marsupials can thrive only in montane grasslands with no predators.

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

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

Ans) c

Exp) Option c is the correct answer

Statement I is correct.

There are about 270 marsupial mammals left in the world today, and they can be found in Australia, Papua New Guinea, and South America. In India, these Marsupials are not found naturally. Kangaroos, wallabies, wombats, opossums, bandicoot and koalas are the examples of marsupials. The pouch, or marsupium, after which marsupials are named is not present in all marsupial females. For marsupials, the gestation period can be as short as 10.5 days.

Statement II is incorrect.

In South America the marsupials live in tropical rainforests. **Marsupials can thrive in any part of the forest habitat, from the trees to the forest floor** whereas the wombat burrow underground. North America's only marsupial is the Virginia opossum.

Source: <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/marsupials>
<https://animals.sandiegozoo.org/animals/marsupial#:~:text=In%20South%20America%2C%20marsupials%20live,is%20North%20America's%20only%20marsupial.>

Q.23) Invasive Species Specialist Group' (that develops Global Invasive Species Database) belongs to which one of the following organizations?

- The International Union Conservation of Nature
- The United Nations Environment Programme
- The United Nations World Commission for Environment and Development
- The World Wide Fund for Nature

Ans) a

Exp) Option a is the correct answer.

- Invasive Species Specialist Group (ISSG):** By increasing awareness about invasive alien species and methods to prevent, control, or eradicate them, it seeks to reduce threats to natural ecosystems and the native species they support. The ISSG promotes and facilitates the global interchange of knowledge and information on invasive species and ensures the connection between knowledge, practice, and policy so that decisions are well-informed.
- Policy and technical guidance, as well as information sharing through its online tools and resources and through networking, are the ISSG's two main focus areas.

Source: https://www.iucn.org/sites/default/files/2023-04/2021-iucn-ssc-invasive-species-sg-report_publication.pdf

Q.24) Consider the following fauna:

- Lion-tailed Macaque
- Malabar Civet
- Sambar Deer

How many of the above are generally nocturnal or most active after sunset?

- Only one
- Only two
- All three
- None

Ans) a

Exp) Option a is the correct answer.

- Lion-tailed Macaque:** The **lion-tailed macaque is a diurnal species** (and not a nocturnal species) that spends its time looking for fruits and invertebrates. **Conservation Status in India:**
 - IUCN Red List:** Endangered
 - Wildlife Protection Act, 1972:** Schedule I

- CITES: Appendix I
- **Malabar Civet:** It is a nocturnal animal which is endemic to India's Western Ghats. Civetone extract from the scent gland of Malabar Civet is used in perfumes and medicine.
- **Sambar Deer:** Sambar deer are primarily crepuscular, meaning they are most active at dawn and dusk. They typically rest in dense forests during the day and move to open areas to feed at dusk, then return to cover at dawn. However, **they may also be active during the night, but they are not strictly nocturnal.**

Source: [https://programs.wcs.org/india/Newsroom/Blog/ID/12547/Icons-of-Anamalai-Lion-Tailed-](https://programs.wcs.org/india/Newsroom/Blog/ID/12547/Icons-of-Anamalai-Lion-Tailed-Macaque#:~:text=A%20diurnal%20species%2C%20the%20lion,the%20health%20of%20their%20pela)

[Macaque#:~:text=A%20diurnal%20species%2C%20the%20lion,the%20health%20of%20their%20pela](https://programs.wcs.org/india/Newsroom/Blog/ID/12547/Icons-of-Anamalai-Lion-Tailed-Macaque#:~:text=A%20diurnal%20species%2C%20the%20lion,the%20health%20of%20their%20pela)

<https://journalsfindia.com/malabar-civet/>

<https://www.worldlandtrust.org/species/mammals/sambar-deer/>

Q.25) Which of the following organisms perform waggle dance for others of their kin to indicate the direction and the distance to a source of their food?

- a) Butterflies
- b) Dragonflies
- c) Honeybees
- d) Wasps

Ans) c

Exp) Option c is the correct answer.

- There are 2 types of dances performed by bees:
 - **The Round Dance and**
 - **The Tail-wagging or Waggle Dance**
- For food sources 25 to 100 metres from the hive or closer, the round dance is used. **The round dance provides no directional cues.**
- The waggle dance takes the place of the round dance as the distance to the food source increases. **The waggle dance tells the direction and amount of energy** needed to reach the food source.
- The amount of energy spent (or distance) is represented by the time required to complete one circuit. For a food source which is 200 metres away, a bee might dance 8–9 circuits in 15 seconds, 4–5 in 15 seconds for a source that is 1000 metres away, and 3 circuits in 15 seconds for a source that is 2000 metres away.

Source: <https://bee-health.extension.org/dance-language-of-the-honey-bee/>

Q.26) Consider the following statements:

1. Some mushrooms have medicinal properties.
2. Some mushrooms have psycho- active properties.
3. Some mushrooms have insecticidal properties.
4. Some mushrooms have bioluminescent properties.

How many of the above statements are correct?

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

Ans) d

Exp) Option d is the correct answer.

Statement 1 is correct: Medicinal mushrooms such as shiitake, maitake, and reishi have been found to have antitumor and immunostimulant properties. Men will probably reap health benefits simply from adding shiitake, maitake, and reishi mushrooms—good sources of B vitamins, fiber, and antioxidants—to the diet.

Statement 2 is correct: Psychoactive properties mean a drug or other substance that affects how the brain works and causes changes in mood, awareness, thoughts, feelings, or behavior. Examples of psychoactive substances include **alcohol, caffeine, nicotine, marijuana**, and certain pain medicines.

Psilocybin is a hallucinogenic chemical in certain mushrooms known as magic mushrooms. Eating mushrooms that contain psilocybin can have a variety of effects, ranging from euphoria to hallucinations. Individuals use psilocybin as a recreational drug. It can provide feelings of euphoria and sensory distortion that are common to hallucinogenic drugs, such as LSD (lysergic acid diethylamide).

Statement 3 is correct: Recently, an increasing number of mushrooms have been found to **contain insecticidal** compounds.

Statement 4 is correct: Bioluminescence is the production and emission of light by living organisms.

Panellus stipticus is one of the brightest-glowing bioluminescent mushrooms on Earth. These flat fungi, which look like a collection of tiny fans growing on sticks, are a dull shade of yellow-beige during the day, but they transform into dazzling decorations after dark. A mushroom documentation project in the forests of Northeast India has revealed not only 600 varieties of fungi, **but also led to a new discovery: a bioluminescent or light emitting variety of mushroom.** The new species – named *Roridomyces phyllostachydis* – was first sighted on a wet August night near a stream in Meghalaya's Mawlynnong in East Khasi Hills district and later at Krang Shuri in West Jaintia Hills district

Source: [https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/medicinal-](https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/medicinal-mushroom#:~:text=Medicinal%20mushrooms%20such%20as%20shiitake,and%20antioxidants%E2%80%94to%20the%20diet.)

[mushroom#:~:text=Medicinal%20mushrooms%20such%20as%20shiitake,and%20antioxidants%E2%80%94to%20the%20diet.](https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/medicinal-mushroom#:~:text=Medicinal%20mushrooms%20such%20as%20shiitake,and%20antioxidants%E2%80%94to%20the%20diet.)

<https://www.medicalnewstoday.com/articles/308850>

<https://naldc.nal.usda.gov/download/24065/PDF>

<https://indianexpress.com/article/explained/mystery-of-meghalayas-glowing-green-mushrooms-7059942/>

<https://www.treehugger.com/bioluminescent-fungi-mushrooms-that-glow-in-the-dark-4868794#:~:text=Panellus%20stipticus%20is%20one%20of,into%20dazzling%20decorations%20after%20dark.>

Q.27) Consider the following statements regarding the Indian squirrels:

1. They build nests by making burrows in the ground.
2. They store their food materials like nuts and seeds in the ground.
3. They are omnivorous.

How many of the above statements are correct?

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

Ans) b

Exp) Option b is the correct answer.

Statement 1 is correct: Indian Palm squirrel construct their nests in tree branches and hollow trunks.

Statement 2 is correct: Nuts are their main food source throughout the year, particularly when they are hunkering down for winter. **These creatures store them by burying them underground** so they can retrieve them later when it turns to winter.

Statement 3 is correct: Many people think that squirrels only eat nuts, but this isn't true. **Squirrels are omnivores**, which means they like to eat plants and meat. Squirrels mainly eat fungi, seeds, nuts and fruits, but they will also munch on eggs, small insects, caterpillars, small animals and even young snakes.

Source: <https://www.whatdosquirrelseat.org/where-do-squirrels-live/>

<https://a-z-animals.com/blog/where-do-squirrels-nest/>

<https://varmentguard.com/blog/squirrel-nests>

<https://animalremover.com/our-squirrel-removal-expert-answers-how-do-squirrels-find-their-nuts-in-the->

[winter/#:~:text=Nuts%20are%20their%20main%20food,when%20it%20turns%20to%20winter.](https://www.livescience.com/28182-squirrels.html)

<https://www.livescience.com/28182-squirrels.html>

Q.28) Consider the following statements:

1. Some microorganisms can grow in environments with temperature above the boiling point of water.
2. Some microorganisms can grow in environments with temperature below the freezing point of water.
3. Some microorganisms can grow in highly acidic environment with a pH below 3.

How many of the above statements are Correct?

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

Ans) c

Exp) Option c is the correct answer.

Statement 1 is correct: A thermophile is an organism, a type of extremophile, that thrives at relatively high temperatures, between 41 and 122 °C. Most thermophiles live at temperatures between 60 and 80

°C. Thermophiles are capable of growing, carrying out metabolic processes, and reproducing at these extreme temperatures. **One thermophile, *Pyrolobus fumarii*, has been found at temperatures of 113° C /235° F, which is hotter than the boiling point of water.**

Statement 2 is correct: Psychrophiles are organisms capable of growth and reproduction in cold temperatures and are often xerophilic and halophilic as well. Some microbes will cease growing at 0°C or even higher while others continue to grow below the freezing point of food. Growth rate below 0°C is very slow. **The reported minimum growth of microorganism varying from 10°C to - 10°C. But for practical cases, the lower limit of growth for bacteria, yeast or moulds can take as -7°C.**

Statement 3 is correct: Acidophiles are microorganisms that show optimal growth in highly acidic environments. These are of two types. **The extreme acidophiles dwell in environments with a pH value <3**, and moderate acidophiles grow optimally in conditions having pH values ranging between 3 and 5.

Source:

<https://www.nps.gov/hosp/learn/thermophiles.htm>

<http://ecoursesonline.iasri.res.in/mod/page/view.php?id=146131>

[https://www.sciencedirect.com/topics/immunology-and-](https://www.sciencedirect.com/topics/immunology-and-microbiology/acidophile#:~:text=Acidophiles%20are%20microorganisms%20that%20show,ranging%20between%203%20and%205.)

[microbiology/acidophile#:~:text=Acidophiles%20are%20microorganisms%20that%20show,ranging%20between%203%20and%205.](https://www.sciencedirect.com/topics/immunology-and-microbiology/acidophile#:~:text=Acidophiles%20are%20microorganisms%20that%20show,ranging%20between%203%20and%205.)

Q.29) Which one of the following makes a tool with a stick to scrape insects from a hole in a tree or a log of wood?

- a) Fishing cat
- b) Orangutan
- c) Otter
- d) Sloth bear

Ans) b

Exp) Option b is the correct answer.

Option b is correct: The present study examined the use and making of tools to obtain foodstuffs in artificial-mound holes by five captive, group-living Sumatran orangutans (*Pongo pygmaeus abelii*). Three adult orangutans frequently stripped leaves and twigs from a branch provided (tool-making), and then inserted the tool into a hole to obtain foodstuffs (tool-using). When the orangutans were unable to insert a tool into a hole, they usually modified the tool and/or changed their tool-using technique, such as changing how they grasped the tool.

Source: [https://www.newscientist.com/article/2308133-orangutans-can-learn-how-to-use-stone-](https://www.newscientist.com/article/2308133-orangutans-can-learn-how-to-use-stone-tools-as-hammers-and-knives/)

<https://pubmed.ncbi.nlm.nih.gov/14744550/>

Q.30) Consider the following:

- 1. Aerosols
- 2. Foam agents
- 3. Fire retardants
- 4. Lubricants

In the making of how many of the above are hydrofluorocarbons used?

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

Ans) c

Exp) Option c is the correct answer.

Option 1, 2, 3 are correct: HFCs are entirely man-made. They are primarily produced for use in refrigeration, air-conditioning, **insulating foams** and **aerosol propellants**, with minor uses as solvents and for **fire protection**.

Option 4 is incorrect: Although HFCs are entirely produced for use in refrigeration, insulating foams and aerosol propellants and air-conditioning, with minor uses as flame retardents but they are not used for making lubricants.

Source:

<https://www.ccacoalition.org/fr/slcsps/hydrofluorocarbons-hfcs#:~:text=HFCs%20are%20entirely%20man%2Dmade,solvents%20and%20for%20fire%20protection.>

Q.31) Consider the following statements:

1. Jhelum River passes through Wular Lake.
2. Krishna River directly feeds Kolleru Lake.
3. Meandering of Gandak River formed Kanwar Lake.

How many of the statements given above are correct?

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

Ans) a

Exp) Option a is the correct answer.

Statement 1 is correct: The Jhelum, an important tributary of the Indus, rises from a spring at Verinag situated at the foot of the Pir Panjal in the south-eastern part of the valley of Kashmir. **It flows through Srinagar and the Wular lake** before entering Pakistan through a deep narrow gorge. It joins the Chenab near Jhang in Pakistan.

Statement 2 is incorrect: The Kolleru lake serves as a natural flood-balancing reservoir for two rivers. **The lake is fed directly by water from the seasonal Budameru and Tammileru streams.** It is connected to the Krishna (but not directly feeds) and Godavari systems by over 68 inflowing drains and channels.

Statement 3 is incorrect: Once a haven for migratory birds, the **Kanwar lake** in Bihar, Asia's largest freshwater oxbow lake, is today a dying wetland ecosystem. **It is a residual oxbow lake, formed due to meandering of Burhi Gandak river,** a tributary of Ganga.

Source: 11th NCERT – India: Physical Environment , chapter: drainage system, Page no. 25

http://www.rainwaterharvesting.org/kolleru_lake/kolleru_lake.htm#:~:text=The%20lake%20serve%20as%20a,68%20inflowing%20drains%20and%20channels.

<https://www.downtoearth.org.in/news/kanwar-lake-birds-paradise-lost-44693>

Q.32) Consider the following pairs :

Port	Well known as
1. Kamarajar Port	First major port in India registered as a company
2. Mundra Port	Largest privately owned port in India
3. Visakhapatnam	Largest container port in India

How many of the above pairs are correctly matched?

- a) Only one pair
- b) Only two pairs
- c) All three pairs
- d) None of the pairs

Ans) b

Exp) Option b is the correct answer.

Pair 1 is correct: Kamarajar Port, located on the Coromandel Coast about 24 km north of Chennai Port, Chennai, it is the 12th major port of India, and **the first port in India which is a public company. The Kamarajar Port is the only corporatized major port and is registered as a company.** Today, the landlord port is the dominant port model in larger and medium sized ports.

Pair 2 is correct: Mundra port is the largest private port in India. The port of Mundra is located on the north shores of the Gulf of Kutch near Mundra, Kutch district, in the state of Gujarat. Mundra is a major hub for containers and bulk cargo. It is run by Adani Ports and SEZ Limited (APSEZ) and began operations in 2001. Mundra Airport is undergoing major developments to convert it into an international airport for air cargo.

Pair 3 is incorrect: Jawaharlal Nehru Port Trust – Nhava Sheva (JNPT) is the largest container port in India and one of the most essential subcontinents harbours on the Western coast.

Source:

<https://www.marineinsight.com/know-more/10-major-ports-in-india/#:~:text=port%20in%20India%3F->

[1,Trust%20%E2%80%93%20Nhava%20Sheva%20\(JNPT\)&text=Known%20as%20Nhava%20Sheva%20C%20JNPT,harbours%20on%20the%20Western%20coast.](https://www.marineinsight.com/know-more/10-major-ports-in-india/#:~:text=port%20in%20India%3F-1,Trust%20%E2%80%93%20Nhava%20Sheva%20(JNPT)&text=Known%20as%20Nhava%20Sheva%20C%20JNPT,harbours%20on%20the%20Western%20coast.)

<https://www.ennoreport.gov.in/content/>

Q.33) Consider the following trees:

- 1. Jackfruit (*Artocarpus heterophyllus*)
- 2. Mahus (*Madhuca indica*)
- 3. Teak (*Tectona grandis*)

How many of the above are deciduous trees?

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

Ans) b

Exp) Option b is the correct answer.

Option 1 is incorrect: Jackfruit, (*Artocarpus heterophyllus*) is a tropical evergreen tree (family *Moraceae*) native to tropical Asia and widely grown throughout the wetland tropics for its large fruits and durable wood. The greenish unripe fruit is cooked as a vegetable, and the brown ripened fruit is eaten fresh for the sweetly acid but insipid pulp surrounding the seeds.

Option 2 and 3 are correct: The Moist deciduous forests are more pronounced in the regions which record rainfall between 100-200 cm. These forests are found in the northeastern states along the foothills of Himalayas, eastern slopes of the Western Ghats and Odisha. **Teak**, sal, shisham, hurra, **mahua**, amla, semul, kusum, and sandalwood etc. are the main species of these forests.

Source: 11th NCERT – India: Physical Environment, Chapter 5 : Natural vegetation, page no. 59

<https://www.britannica.com/plant/jackfruit>

Q.34) Consider the following statements:

1. India has more arable area than China.
2. The proportion of irrigated area is more in India as compared to China.
3. The average productivity per hectare in Indian agriculture is higher than that in China.

How many of the above statements are correct?

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

Ans) a

Exp) Option a is the correct answer.

Statement 1 is incorrect: Though **India has the largest cropland (or arable land) of any country at 179.8 million hectares**, compared with 167.8 million in the US and **165.2 million in China as per various official reports. But most probably UPSC has considered this statement as incorrect. We will update the source if we get any further information.**

Statement 2 is correct: China's irrigation cover is 41% of cultivated area, and **India's is 48%**. Hence, India has high proportion of irrigated area.

Statement 3 is incorrect: As a result of this irrigation, China's total sown area is 166 m ha compared to India's gross cropped area of 198 m ha. Even with much lesser land under cultivation, China produces agricultural output valued at \$1,367 billion—more than three times that of India's \$407 billion. **China's productivity in most crops is 50 to 100% higher than India's.**

Note: Though from various sources Answer should Option b but as per UPSC Official answer key answer is Option a.

Source: <https://www.livemint.com/Politics/aI28vAplwqEqm2LnziWU3I/Theres-more-farmland-in-the-world-than-was-previously-thoug.html#:~:text=in%20a%20statement,->

,India%20has%20the%20largest%20cropland%20of%20any%20country%20at%20179.8,and%20165.2%20million%20in%20China.

<https://www.financialexpress.com/opinion/india-can-learn-agri-policy-lessons-from-china/1748398/>

Q.35) Which one of the following is the best example of repeated falls in sea level, giving rise to present-day extensive marshland?

- a) Bhitarkanika Mangroves
- b) Marakkanam Salt Pans
- c) Naupada Swamp
- d) Rann of Kutch

Ans) d

Exp) Option d is the correct answer

Option a is incorrect: Bhitarkanika mangroves, located in Odisha, India, is a significant mangrove ecosystem. While it experiences tidal fluctuations, it is not primarily characterized by repeated falls in sea level. Rather, it is influenced by the riverine system and is considered an important breeding ground for various species, including the endangered saltwater crocodile.

Option b is incorrect: Marakkanam salt pans, situated in Tamil Nadu, India, are salt marshes used for salt production. They are formed in low-lying coastal areas where seawater is allowed to evaporate, leaving behind salt crystals. However, these salt pans do not result from repeated falls in sea level but are created artificially by utilizing the existing seawater.

Option c is incorrect: Naupada swamp, also known as Naupada Wetland, is located in Odisha, India. It is a freshwater swamp and is not primarily influenced by repeated falls in sea level. Instead, it is formed by the inflow of freshwater from rivers and receives seasonal rainwater.

Option d is correct: The Rann of Kutch, situated in Gujarat, India, is the best example among the options provided. It is a vast seasonal salt marsh that experiences significant fluctuations in sea level due to its geological history. The Rann of Kutch was once an arm of the Arabian Sea, and as the sea level fell over time, it transformed into a marshy land. The region is known for its unique ecosystem, supporting a diverse range of flora and fauna, including migratory birds and endangered species. The Rann of Kutch is also famous for the annual Rann Utsav, a cultural festival that celebrates the vibrant traditions of the region.

Source: https://forests.gujarat.gov.in/writereaddata/images/pdf/26_Rann-Booklet.pdf

https://www.researchgate.net/publication/285202093_The_Great_Rann_of_Kachchh_Perceptions_of_a_field_geologist

Q.36) Ilmenite and rutile, abundantly available in certain coastal tracts of India, are rich sources of which one of the following?

- a) Aluminium
- b) Copper
- c) Iron
- d) Titanium

Ans) d

Exp) Option d is the correct answer

Ilmenite (FeTiO₃) and rutile (TiO₂) are both minerals that contain high concentrations of titanium.

Titanium is a strong and lightweight metal known for its excellent corrosion resistance and high strength-to-weight ratio. It is widely used in various industries, including aerospace, automotive, medical, and construction.

In India, certain coastal tracts are known for their significant ilmenite and rutile deposits. **These minerals are commonly found in beach sand deposits and are extracted through beach sand mining operations.** The extracted ilmenite and rutile are processed to obtain titanium dioxide (TiO₂), which is then further refined to produce metallic titanium. **Therefore, ilmenite and rutile, found abundantly in certain coastal tracts of India, are valuable sources of titanium.**

Source:

https://ibm.gov.in/writereaddata/files/07092014125506IMYB_2012_Ilmenite%20&%20Rutile.pdf

Q.37) About three-fourths of world's cobalt, a metal required for the manufacture of batteries for electric motor vehicles, is produced by

- a) Argentina
- b) Botswana
- c) the Democratic Republic of the Congo
- d) Kazakhstan

Ans) c

Exp) Option c is the correct answer

The DRC is the world's largest producer of cobalt, accounting for about three-fourths (75%) of the global production. The country has been the top producer of the metal for some time, and reported output of 130,000 MT in 2022. Cobalt is a crucial component in the manufacture of batteries for electric vehicles, as well as for various electronic devices such as smartphones and laptops.

There are several reasons why the DRC has become the primary source of cobalt production:

- 1) **Abundance of Cobalt Reserves:** The DRC is home to vast reserves of cobalt. It is estimated to have approximately 3.4 million metric tons of cobalt reserves, which is the largest in the world. This abundance of cobalt resources has made the DRC a significant player in the global cobalt market.
- 2) **Artisanal Mining:** A significant portion of cobalt production in the DRC comes from artisanal and small-scale mining operations. These operations involve individual miners or small groups extracting cobalt using basic tools and equipment. However, due to the informal nature of this mining sector, it can be associated with challenges such as poor working conditions, environmental concerns, and potential human rights issues.

- 3) **Industrial Mining Operations:** Alongside artisanal mining, the DRC also has large-scale industrial mining operations run by multinational mining companies. These operations use modern machinery and technologies to extract cobalt from mines. The industrial mining sector plays a crucial role in meeting the global demand for cobalt.

Source: <https://investingnews.com/where-is-cobalt-mined/>

<https://www.statista.com/statistics/264928/cobalt-mine-production-by-country/#:~:text=The%20leading%20country%20in%20worldwide,130%2C000%20metric%20tons%20that%20year.>

Q.38) Which one of the following is a part of the Congo Basin?

- a) Cameroon
- b) Nigeria
- c) South Sudan
- d) Uganda

Ans) a

Exp) Option a is the correct answer.

Option a is correct: The Congo Basin is a vast region in Central Africa, encompassing multiple countries. It is primarily characterized by the Congo Rainforest, the second-largest rainforest in the world. **The Congo Basin spans across six countries—Cameroon, Central African Republic, Democratic Republic of the Congo, Republic of the Congo, Equatorial Guinea and Gabon.**

Option b is incorrect: Nigeria is located in West Africa and is not part of the Congo Basin. It is situated to the west of Cameroon.

Option c is incorrect: South Sudan is located in East-Central Africa, and while it is geographically closer to the Congo Basin compared to Nigeria, it does not fall within the basin itself. The Congo Basin is mainly found to the south of South Sudan.

Option d is incorrect: Uganda is also located in East Africa, north of Rwanda and Tanzania. While it is relatively close to the eastern edge of the Congo Basin, it does not lie entirely within the basin.

Source: <https://rainforests.mongabay.com/kids/slideshows/congo-rainforest-tour/congo-rainforest-tour-02.html>

https://www.researchgate.net/figure/The-regional-study-area-encompasses-6-countries-in-the-Congo-Basin-A-national-scale_fig1_348163070

Q.39) Consider the following statements:

- 1. Amakantak Hills are at the confluence of Vindhya and Sahyadri Ranges.
- 2. Biligirirangan Hills constitute the easternmost part of Satpura Range.
- 3. Seshachalam Hills constitute the southernmost part of Western Ghats.

How many of the statements given above are correct?

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

Ans) d

Exp) Option d is the correct answer

Statement 1 is incorrect: Amarkantak (NLK Amarakantaka) is a pilgrim town in Anuppur, Madhya Pradesh, India. The Amarkantak region is a unique natural heritage area and is the meeting point of the Vindhya and the Satpura Ranges, with the Maikal Hills being the fulcrum.

Statement 2 is incorrect: The Billigirirangan hills, also known as Biligiriranga Hills or BR Hills, are not a part of the Satpura range. The Biligirirangana Hills or Biligirirangan Hills is a hill range situated in south-western Karnataka, at its border with Tamil Nadu (Erode District) in South India. The area is called Biligiri Ranganatha Swamy Temple Wildlife Sanctuary or simply BRT Wildlife Sanctuary.

Statement 3 is incorrect: The Sesachalam hills, also known as Tirumala hills, are not a part of the Western Ghats. Seshachalam Hills are hilly ranges part of the Eastern Ghats in southern Andhra Pradesh state, in southeastern India. The Seshachalam hill ranges are predominantly present in Tirupati district of the Rayalaseema region in Andhra Pradesh, India.

Thus None of the Statements are correct.

Source:

<https://indiancc.mygov.in/wp-content/uploads/2021/07/mygov-1000000001175480292.pdf>

http://www.indianbirds.in/pdfs/Srinivasan_BRHills.pdf

<http://forests.telangana.gov.in/Documents/Wildlife/SBR.pdf>

Q.40) With reference to India's projects on connectivity, consider the following statements:

1. East-West Corridor under Golden Quadrilateral Project connects Dibrugarh and Surat.
2. Trilateral Highway connects Moreh in Manipur and Chiang Mai in Thailand via Myanmar.
3. Bangladesh- China- India- Myanmar Economic Corridor connects Varanasi in Uttar Pradesh with Kunming in China.

How many of the above statements are correct?

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

Ans) d

Exp) Option d is the correct answer

Statement 1 is incorrect: The East-West Corridor is a part of the National Highways Development Project (NHDP) in India, which aims to connect Silchar in Assam to Porbandar in Gujarat. **It does not connect Dibrugarh in Assam and Surat in Gujarat.** East-West Corridor is a 3,300 kilometres (2,100 mi) corridor via NH 27 (Porbandar-Rajkot-Samakhiali-Radhanpur-Kota-Jhansi-Kanpur-Lucknow-Ayodhya-Gorakhpur-Muzaffarpur-Darbhanga-Supaul-Purnia- Dalkhola-Kishanganj, Islampur-Sonapur- Ghoshpukur-Jalpaiguri Alipurduar- Bongaigaon - Nalbari Bijni-Guwahati-Nagaon-Dabaka-Silchar).

Statement 2 is incorrect: The Trilateral Highway is a connectivity project **that aims to connect Moreh in Manipur, India, with Mae Sot in Thailand via Myanmar.** It is an important infrastructure project to enhance trade, connectivity, and people-to-people ties among the three countries.

Statement 3 is incorrect: The Bangladesh-China-India-Myanmar Economic Corridor (BCIM) is a proposed economic corridor that aims to connect Kunming in China with Kolkata in India, passing through Myanmar and Bangladesh. Varanasi in Uttar Pradesh is not directly connected to this corridor.

Thus none of the statements are correct.

Source: <https://www.aseanbriefing.com/news/india-eager-for-expansion-of-trilateral-highway-to-cambodia-laos-and-vietnam/>

<https://www.adb.org/documents/india-east-west-corridor-project>

http://pubs.iclarm.net/resource_centre/4258.pdf

Q.41) Consider the following statements:

Statements - I:

Interest income from the deposits in Infrastructure Investment Trusts (InvITs) distributed to their investors is exempted from tax, but the dividend is taxable.

Statements - II:

InvITs are recognized as borrowers under the 'Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002'.

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

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

Ans) d

Exp) Option d is the correct answer

Statement 1 is incorrect: InvITs are investment vehicles that pool funds from investors to invest in infrastructure projects. InvITs are pass-through entities, which means that the income and expenses of the InvIT are passed through to the unitholders. Under the latest budget 2023-24, all income distributed by InvITs, including interest income, dividend income, and rental income, will be taxable in the hands of unitholders. This is a change from the previous tax regime, under which only dividend income from InvITs was taxable. The reason for this change is to widen the tax base and to ensure that all income from InvITs is taxed, regardless of its source. This will help to ensure that all investors in InvITs pay their fair share of taxes. It is important to note that this change will only affect income distributed by InvITs. Income distributed by other types of trusts, such as real estate investment trusts (REITs), will not be affected.

Here are some additional details about the tax treatment of InvITs under the latest budget:

- 1) Interest income from deposits in InvITs will be taxed at the investor's marginal income tax rate.
- 2) Dividend income from InvITs will be taxed at the dividend distribution tax (DDT) rate of 15%.
- 3) Rental income from InvITs will be taxed at the investor's marginal income tax rate.

Therefore, the given statement is incorrect.

Statement 2 is correct: InvITs are classified as borrowers under the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 (SARFAESI Act). The SARFAESI Act provides a legal framework for the securitization of financial assets and enables the enforcement of security interests in case of default.

Source: <https://www.thehindubusinessline.com/news/real-estate/reits-invits-to-approach-fin-min-against-tax-on-distribution-income/article66481515.ece>

<https://www.etmoney.com/learn/personal-finance/all-you-need-to-know-about-infrastructure-investment-trusts-invits/>

Q.42) Consider the following statements:

Statement - I:

In the post-pandemic recent past, many Central Banks worldwide had carried out interest rate hike.

Statement - II:

Central Banks generally assume that they have the ability to counteract the rising consumer prices via monetary policy means.

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

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

Ans) a

Exp) Option a is the correct answer

Statement 1 is correct: In the post-pandemic recent past, many central banks worldwide have indeed carried out interest rate hikes. Central banks use interest rate adjustments as one of their monetary policy tools to manage the economy. When the economy is recovering and inflationary pressures increase, central banks may choose to increase interest rates to control inflation and ensure price stability. By raising interest rates, central banks aim to reduce borrowing and spending, which can help cool down an overheating economy and prevent excessive inflation.

Statement 2 is correct: Monetary policy refers to the actions taken by central banks to influence the supply of money and credit in the economy. Central banks believe that by adjusting interest rates, they can influence borrowing costs, spending patterns, and overall economic activity. When inflation rises, central banks may raise interest rates to make borrowing more expensive, thereby discouraging excessive spending and slowing down economic growth. By doing so, they aim to dampen inflationary pressures and maintain price stability.

Therefore, statement 2 provides the correct explanation for statement 1. Central banks believe that by using monetary policy tools, such as interest rate hikes, they can effectively counteract rising consumer prices and control inflationary pressures in the economy.

Source: <https://www.imf.org/en/Blogs/Articles/2022/08/10/central-banks-hike-interest-rates-in-sync-to-tame-inflation-pressures>

Q.43) Consider the following statements:

Statement-I:

Carbon markets are likely to be one of the most widespread tools in the fight against climate change.

Statement-II:

Carbon markets transfer resources from the private sector to the State.

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

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

Ans) b

Exp) Option b is the correct answer.

Statement I is correct- This statement states that carbon markets are likely to be one of the most widespread tools in the fight against climate change. This statement is generally true. Carbon markets, also known as emissions trading systems or cap-and-trade systems, are mechanisms that put a price on carbon emissions. They create economic incentives for reducing emissions by allowing entities to buy and sell carbon credits. This helps to create a market-based approach to reducing greenhouse gas emissions and has been adopted by many countries and regions as a strategy to mitigate climate change.

Statement II is correct- Carbon markets are a mechanism designed to reduce greenhouse gas emissions by putting a price on carbon. They create a market for buying and selling carbon credits, which represent the right to emit a certain amount of greenhouse gases. In carbon markets, companies or entities that emit fewer greenhouse gases than their allotted limit can sell their excess credits to those who exceed their limit. This allows for a more efficient allocation of emission reduction efforts. While carbon markets involve financial transactions and can transfer resources from the private sector to the state. Instead, they facilitate the exchange of emission allowances between entities, which can include both private and public entities.

But statement II is not the correct explanation of Statement I: As it transfers resources from private sector to the State does not become the reason why they are likely to be one of the most widespread tools in the fight against climate change.

Source:

<https://www.thehindu.com/news/national/explained-what-are-carbon-markets-and-how-do-they-operate/article66260084.ece>

Q.44) Which one of the following activities of the Reserve Bank of India is considered to be part of 'sterilization'?

- a) Conducting 'Open Market Operations'
- b) Oversight of settlement and payment systems
- c) Debt and cash management for the Central and State Governments

d) Regulating the functions of Non-banking Financial Institutions

Ans) a

Exp) Option a is the correct answer.

Option a is correct- Sterilization refers to the actions taken by a central bank to offset the impact of its foreign exchange operations on the domestic money supply. When a central bank intervenes in the foreign exchange market by buying or selling foreign currencies, it affects the domestic money supply. Open Market Operations (OMO) is one of the primary tools used by central banks, including the Reserve Bank of India (RBI), to conduct monetary policy. In OMO, the central bank buys or sells government securities (bonds) in the open market to influence the liquidity in the economy. When the RBI conducts OMO, it impacts the money supply in the economy. If the RBI buys government securities, it injects money into the system, increasing the money supply. To prevent this injection of money from creating inflationary pressures, the RBI engages in sterilization. Sterilization involves the simultaneous sale or purchase of other securities, typically treasury bills, to offset the impact of the initial open market operation.

Option b is incorrect- Oversight of settlement payment systems is not directly related to sterilization. It refers to the role of the Reserve Bank of India in supervising and ensuring the smooth functioning of payment and settlement systems in the country. Payment systems facilitate the transfer of funds between individuals, businesses, and financial institutions. While this function is important for maintaining the efficiency and stability of the financial system, it is not directly related to sterilization, which specifically deals with managing the impact of foreign exchange operations on the domestic money supply.

Option c is incorrect- Debt and cash management for the Central and State Governments involves the Reserve Bank of India's role in managing the issuance, redemption, and servicing of government debt, as well as overseeing the cash flow operations of the government. This function is important for maintaining government finances and liquidity. However, it is not directly related to sterilization, which specifically pertains to offsetting the impact of foreign exchange operations on the domestic money supply.

Option d is incorrect- The Reserve Bank of India regulates and supervises non-banking financial institutions (NBFIs) such as non-banking financial companies (NBFCs). NBFIs play a crucial role in the financial system by providing various financial services. While the regulation of NBFIs is an important function of the RBI, it is not directly related to sterilization. Sterilization primarily deals with managing the impact of foreign exchange operations on the domestic money supply and involves specific actions such as open market operations, as explained earlier.

Source:

<https://www.investopedia.com/terms/s/sterilization.asp#:~:text=Sterilization%20is%20a%20form%20of,effect%20of%20foreign%20exchange%20intervention.>

Q.45) Consider the following markets:

1. Government Bond Market
2. Call Money Market
3. Treasury Bill Market

4. Stock Market

How many of the above are included in capital markets?

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

Ans) b

Exp) Option b is the correct answer.

Capital markets are financial markets where long-term securities, such as stocks and bonds, are traded. They provide a platform for raising capital for businesses and governments.

On the other hand, Money market are financial markets where short term securities such as T-Bill, C-Paper, Cash Management Bills, Ways and Means advances, etc. are trade.

Statement 1 is correct- Government bonds are long-term debt securities issued by governments to finance their activities. The government bond market is a part of the capital market as it involves the trading of long-term debt securities.

Statement 2 is incorrect- The call money market is a short-term market where funds are borrowed and lent for very short durations, usually overnight. It deals with short-term funds, and its transactions are not classified as part of the capital market.

Statement 3 is incorrect- Treasury bills are short-term debt instruments issued by governments to finance their short-term cash flow requirements. The treasury bill market, similar to the call money market, deals with short-term instruments and is not considered part of the capital market.

Statement 4 is correct- The stock market, also known as the equity market or share market, is where shares or stocks of publicly listed companies are bought and sold. The stock market is a part of the capital market as it involves the trading of ownership interests (equity securities) in companies.

Source: <https://www.investopedia.com/terms/c/capitalmarkets.asp>

Q.46) Which one of the following best describes the concept of 'Small Farmer Large Field'?

- a) Resettlement of a large number of people, uprooted from their countries due to war, by giving them a large cultivable land which they cultivate collectively and share the produce
- b) Many marginal farmers in an area organize themselves into groups and synchronize and harmonize selected agricultural operations
- c) Many marginal farmers in an area together make a contract with a corporate body and surrender their land to the corporate body for a fixed term for which the corporate body makes a payment of agreed amount to the farmers
- d) A company extends loans, technical knowledge and material inputs to a number of small farmers in an area so that they produce the agricultural commodity required by the company for its manufacturing process and commercial production

Ans) b

Exp) Option b is the correct answer.

Option a is incorrect- This option describes the concept of resettlement for people uprooted from their countries due to war, rather than the concept of Small Farmer Large Field. It does not involve the organization of marginal farmers or the synchronization of agricultural operations.

Option b is correct- The concept of "Small Farmer Large Field" refers to the idea where many marginal farmers in a particular area come together and organize themselves into groups. These groups work collectively to synchronize and harmonize selected agricultural operations.

In this approach, instead of individually working on their small plots of land, these farmers pool their resources, knowledge, and efforts to cultivate larger fields collectively. By doing so, they can achieve economies of scale, improve efficiency, and enhance productivity.

This concept allows small farmers to overcome the limitations of their individual small land holdings and collaborate to optimize their agricultural activities. It can involve sharing equipment, sharing labor, collectively marketing their produce, and adopting modern farming techniques.

Option c is incorrect- This option describes a scenario where marginal farmers enter into a contract with a corporate body, surrender their land, and receive payment. It does not involve the organization of farmers or the synchronization of agricultural operations.

Option d is incorrect- This option describes a scenario where a company provides loans, technical knowledge, and inputs to small farmers for the purpose of producing agricultural commodities required by the company. It does not involve the organization of farmers or the synchronization of agricultural operations.

Source: <https://indianexpress.com/article/india/agricultural-economics-how-doubling-of-farmers-income-is-possible-even-with-small-landholdings-5428084/>
<https://link.springer.com/article/10.1007/s12571-021-01236-x>

Q.47) Consider the following statements:

1. The Government of India provides Minimum Support Price for niger (*Guizotia abyssinica*) seeds.
2. Niger is cultivated as a Kharif crop.
3. Some tribal people in India use niger seed oil for cooking.

How many of the above statements are correct?

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

Ans) c

Exp) Option c is the correct answer.

Statement 1 is correct-The Government of India provides Minimum Support Price (MSP) of Rs. 6930 (absolute increase of Rs. 235 per quintal) for niger seeds for MSP 2021-22.

Niger, a minor oilseed crop, is primarily cultivated in rainfed areas. The seeds of Niger are utilized as a food source for humans. With an oil content ranging from 37% to 47%, the oil extracted from the seeds has a pale yellow color, a nutty flavor, and a pleasant aroma. This oil finds application in various domains such as culinary purposes, anointing the body, manufacturing paints and soft soaps, as well as for lighting and lubrication. Additionally, the fragrance-absorbing properties of Niger oil make it valuable

to the perfume industry as a base oil. Moreover, it is believed that Niger oil can be used for contraception and as a treatment for syphilis.

MSP is a form of agricultural price support mechanism where the government guarantees a minimum price for certain crops to protect farmers from fluctuations in market prices. However, niger seeds are not included in the list of crops for which the government provides MSP.

Statement 2 is correct- Niger, also known as *Guizotia abyssinica*, is primarily cultivated as a Kharif crop in India. Kharif season refers to the monsoon season, typically from June to October, during which crops are sown and harvested.

Statement 3 is correct- The tribal communities incorporate niger seed oil into their cooking practices, utilize the press cake remaining after oil extraction as livestock feed, and even consume the seeds themselves as a condiment. Niger seed oil possesses medicinal properties, leading to its high demand in commercial sectors such as cosmetics, perfumeries, and related industries.

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=1725612>

[https://www.downtoearth.org.in/news/agriculture/illusiv-oilseed-india-s-niger-seed-cultivation-is-declining-here-is-why-](https://www.downtoearth.org.in/news/agriculture/illusiv-oilseed-india-s-niger-seed-cultivation-is-declining-here-is-why-84380#:~:text=In%202020%2D21%2C%20the%20MSP,the%20MSP%20at%20Rs%207%2C287.)

84380#:~:text=In%202020%2D21%2C%20the%20MSP,the%20MSP%20at%20Rs%207%2C287.

Q.48) Consider the investments in the following assets:

1. Brand recognition
2. Inventory
3. Intellectual property
4. Mailing list of clients

How many of the above are considered intangible investments?

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

Ans) c

Exp) Option c is the correct answer.

Statement 1 is correct- A brand serves as a distinct symbol, logo, or name that companies utilize to differentiate their product from others in the market. Brand equity is classified as an intangible asset since its worth does not derive from a physical entity and is primarily influenced by how consumers perceive the brand.

Statement 2 is incorrect- Inventory refers to the goods or products that a company holds for sale. It represents tangible assets, as inventory consists of physical items that can be seen, touched, and measured. Therefore, it is not considered an intangible investment.

Statement 3 is correct- Intellectual property (IP) includes intangible assets such as patents, trademarks, copyrights, and trade secrets. These are legal rights that protect creations of the mind, such as inventions, artistic works, and business names. Intellectual property is considered an intangible investment as it involves the acquisition and protection of intangible assets.

Statement 4 is correct- The mailing list of client is among the intangible assets of a company, encompassing a compilation of past customers. Building a customer list is a time-consuming process that holds substantial value for a business in the long run. It serves as an invaluable asset for targeted marketing efforts, enabling the company to promote new or existing products and services to specific customer segments. Additionally, the customer list plays a crucial role in attracting new business opportunities.

Source: https://www.mca.gov.in/Ministry/notification/pdf/AS_26.pdf

Q.49) Consider the following:

1. Demographic performance
2. Forest and ecology
3. Governance reforms
4. Stable government
5. Tax and fiscal efforts

For the horizontal tax devolution, the Fifteenth Finance Commission used how many of the above as criteria other than population area and income distance?

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

Ans) b

Exp) Option b is the correct answer.

Horizontal Tax Devolution- comparison between 14th and 15th Finance Commission.

Parameters	14th Finance Commission (2015-20)	15th Finance Commission (2020-21)	15th Finance Commission (2021-26)
Population (1971)	17.5%	0%	0%
Population (2011)	10%	15%	15%
Area	15%	15%	15%
Forest Cover	7.5%	0%	0%
Forest and Ecology	0%	10%	10%
Income Distance	50%	45%	45%
Tax and Fiscal Efforts	0%	2.5%	2.5%
Demographic Performance	0%	12.5%	12.5%

Statement 1 is correct- Demographic performance refers to the assessment of population-related factors such as population growth rate, demographic composition, and demographic changes over

time. The Commission used 2011 population data for its recommendations. States with a lower fertility ratio will be scored higher on this criterion. The 15th Finance Commission suggested 12.5% weightage to the Demographic performance.

Statement 2 is correct- Forest and ecology refer to the assessment of environmental factors, including the preservation and conservation of forests, biodiversity, and ecological balance. This criterion has been determined by calculating the proportion of dense forest within each state relative to the total dense forest across all states. The 15th Finance Commission suggested 10% weightage to the Forest and Ecology.

Statement 3 is incorrect- Governance reforms encompass various measures aimed at improving the efficiency, transparency, and effectiveness of government operations and public service delivery. This criterion was not considered by the Fifteenth Finance Commission as one of the criteria for horizontal tax devolution.

Statement 4 is incorrect- Stable government refers to the political stability and continuity of government institutions. While stability in government can be a desirable factor, it was not explicitly mentioned as a criterion for horizontal tax devolution by the Fifteenth Finance Commission.

Statement 5 is correct- Tax and fiscal efforts involve the assessment of a state's efforts in tax collection and fiscal management. This criterion has been employed to incentivize states with better efficiency in tax collection. It is determined by the ratio of the average per capita own tax revenue to the average per capita state GDP over a three-year period from 2016-17 to 2018-19. The 15th Finance Commission suggested 2.5% weightage to the Tax and fiscal efforts.

Source: <https://prsindia.org/policy/report-summaries/report-15th-finance-commission-2021-26>

Q.50) Consider the following infrastructure sectors:

1. Affordable housing
2. Mass rapid transport
3. Health care
4. Renewable energy

On how many of the above does UNOPS Sustainable Investments in Infrastructure and Innovation (S3i) initiative focus for its investments?

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

Ans) c

Exp) Option c is the correct answer.

Established in 1973 as a component of the United Nations Development Programme (UNDP), UNOPS gained autonomy and financial independence in 1995. UNOPS' overarching vision is to promote sustainable implementation practices in the realms of development, humanitarian aid, and peacebuilding. The development of climate-resilient and sustainable infrastructure is crucial across various sectors that play a significant role in sustainable development.

Statement 1 is correct- UNOPS S3i initiative prioritize affordable housing. The objective in the field of affordable housing is to provide significant support for affordable housing initiatives targeting the middle-income and lower-middle-income groups of the population. The focus is on implementing these projects on a large scale.

Statement 2 is incorrect- Mass Rapid Transport is not included in the UNOPS S3i initiative.

Statement 3 is correct- UNOPS S3i initiative prioritize Healthcare. Regarding healthcare, the objective is to enhance the quality of healthcare in the specified countries by providing support for healthcare infrastructure projects. These projects aim to address the needs of both private and public healthcare systems with a particular emphasis on primary care clinics, hospitals, diagnostic centers, laboratories, and the potential implementation of established healthcare technologies. The goal is to bring about effective and sustainable solutions to meet healthcare demands.

Statement 4 is correct- UNOPS S3i initiative prioritize renewable energy. Within the realm of renewable energy, the primary emphasis lies in investing in infrastructure projects related to renewable energy sources, including but not limited to solar, hydro, wind, biomass, and hydrogen, particularly in eligible emerging markets and developing nations. The main focus is on the generation of renewable energy and the accompanying distribution and storage infrastructure. However, investments in innovative technologies and solutions throughout the renewable energy value chain may also be taken into consideration.

Source: <https://content.unops.org/documents/S3i-Request-for-Partnership-Proposals-for-Funds.pdf>

Q.51) With reference to Home Guards, consider the following statements:

1. Home Guards are raised under the Home Guards Act and Rules of the Central Government.
2. The role of the Home Guards is to serve as an auxiliary force to the police in maintenance of internal security.
3. To prevent infiltration on the international border/coastal areas, the Border Wing Home Guards Battalions have been raised in some States.

How many of the above statements are correct?

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

Ans) b

Exp) Option b is the correct answer.

'Home Guards' is a voluntary force, first raised in India in December 1946, to assist the police in controlling civil disturbance and communal riots.

Statement 1 is incorrect: Home Guards are raised under the Home Guards Act and Rules of the States/Union Territories (not central Government). They are recruited from amongst all classes of people and walks of life, who give their spare time to the organisation for betterment of the community.

Statement 2 is correct: The role of Home Guards is to serve as an auxiliary Force to the Police in maintenance of internal security situations, help the community in any kind of emergency such as

an air-raid, fire, cyclone, earthquake, epidemic etc., help in maintenance of essential services, promote communal harmony and assist the administration in protecting weaker sections, participate in socio-economic and welfare activities and perform Civil Defence duties.

Statement 3 is correct: Fifteen Border Wing Home Guards (BWHG) Battalions have been raised in the border States viz. Punjab (6 Bns.), Rajasthan (4 Bns.), Gujarat (2 Bns.) and one each Battalion for Meghalaya, Tripura and West Bengal to serve as an **auxiliary to Border Security Force for preventing infiltration on the international border/coastal areas**, guarding of VA/VPs and lines of communication in vulnerable area at the time of external aggression.

Therefore, only two statements are correct.

Source: <https://dgfscdhg.gov.in/about-homeguard>

Q.52) With reference to India, consider the following pairs:

Action	The Act under which it is covered
1. Unauthorized wearing of police or military uniforms	The Official Secrets Act, 1923
2. Knowingly misleading or otherwise interfering with a police officer or military officer when engaged in their duties	The Indian Evidence Act, 1872
3. Celebratory gunfire which can endanger the personal safety of others	The Arms (Amendment) Act, 2019

How many of the above pairs are correctly matched?

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

Ans) b

Exp) Option b is the correct answer.

Pair 1 is correctly matched: The Official Secrets Act, 1923 prohibits person from using or wearing, without lawful authority, any naval, military, air force, police or other official uniform, or any uniform so nearly resembling the same as to be calculated to deceive, or falsely represents himself to be a person who is or has been entitled to use or wear any such uniform

Pair 2 is incorrectly matched: It is under The Official Secrets Act, 1923, that no person in the vicinity of any prohibited place shall obstruct, **knowingly mislead or otherwise interfere with** or impede, **any**

police officer, or any member of 21 [the Armed Forces of the Union] engaged on guard, sentry, patrol or other similar duty in relation to the prohibited place.

Pair 3 is correctly matched: The Arms Act Amendment of 2019 adds new offences such as forcefully taking a firearm from police or armed forces and **using firearms in a celebratory gunfire** which endangers human life or personal safety of others.

Source: [https://www.indiacode.nic.in/show-](https://www.indiacode.nic.in/show-data?actid=AC_CEN_5_23_00042_192319_1523344792011&orderno=6)

[data?actid=AC_CEN_5_23_00042_192319_1523344792011&orderno=6](https://www.indiacode.nic.in/show-data?actid=AC_CEN_5_23_00042_192319_1523344792011&orderno=6)

<https://indiankanoon.org/doc/61492784/>

https://www.mha.gov.in/sites/default/files/ActAndRuleThe%20ArmsAct_17122019.pdf

Q.53) Consider the following pairs:

Regions often mentioned in news	Reason for being in news
---------------------------------	--------------------------

- | | |
|-----------------------------|------------------------------------|
| 1. North Kivu and Ituei | War between Armenia and Azerbaijan |
| 2. Nagorno-Karabakh | Insurgency in Mozambique |
| 3. Kherson and Zaporizhzhia | Dispute between Israel and Lebanon |

How many of the above pairs are correctly matched?

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

Ans) d

Exp) Option d is the correct answer

Pair 1 is incorrectly matched: North Kivu and Ituri are the eastern provinces of Democratic Republic of Congo. The President of Congo, Felix Tshisekedi declared a “State of Siege” due to the increasing violence in the eastern provinces of North Kivu and Ituri. The violence killed more than hundred people and displaced more than 1.5 million.



Pair 2 is incorrectly matched: Nagorno-Karabakh is a mountainous and heavily forested region that under international law is recognised as part of Azerbaijan. Recently, protests against possible concessions by Armenia over Nagorno-Karabakh which is disputed with neighboring Azerbaijan, have increased.



Pair 3 is incorrectly matched: Russia released vote tallies showing overwhelming support in four provinces of Ukraine to join with Russia. The four regions are Donetsk, Luhansk, Zaporizhzhia and Kherson.



MID-NOV: 54% of territory captured by Russia reclaimed by Ukraine.

Source: <https://blogs.lse.ac.uk/europpblog/2022/10/14/russias-attempt-to-annex-kherson-zaporizhzhia-donetsk-and-luhansk-has-undermined-its-claim-on-crimea/>

Q.54) Consider the following statements:

Statement-1: Israel has established diplomatic relations with some Arab States.

Statement-II: The 'Arab Peace Initiative' mediated by Saudi Arabia was signed by Israel and Arab League.

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

- a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-1
- c) Statement-1 is correct but Statement-II is incorrect
- d) Statement-1 is incorrect but Statement-II is correct

Ans) c

Exp) Option c is the correct answer.

Statement 1 is correct: Israel has established diplomatic relations with some Arab countries over the years. The first Arab country to officially recognize and establish diplomatic relations with Israel was Egypt. The historic peace treaty between Israel and Egypt was signed in 1979 at Camp David, leading to diplomatic relations and normalization of ties between the two nations.

Another Arab country that has established diplomatic relations with Israel is Jordan. In 2020, the United Arab Emirates (UAE) and Bahrain signed agreements with Israel to establish full diplomatic relations, known as the Abraham Accords.

Statement 2 is incorrect: Arab Peace Initiative **was not signed by Israel.** The Arab Peace Initiative, also known as the "Saudi Initiative," was proposed by Saudi Arabia in 2002 at the Arab League Summit in Beirut. It was endorsed by the Arab League as a potential resolution to the Israeli-Palestinian conflict. The initiative called for the recognition of Israel by the Arab states and the establishment of normal diplomatic relations in exchange for Israel's complete withdrawal from the territories occupied during the 1967 Six-Day War, the creation of a Palestinian state with East Jerusalem as its capital, and a "just solution" for Palestinian refugees based on UN General Assembly Resolution 194. While Israel has not officially signed the Arab Peace Initiative, it has been the subject of discussions and negotiations between Israel and the Arab states.

Source: <https://www.mei.edu/publications/arab-peace-initiative-returns-will-it-supplant-abraham-accords>

Q.55) Consider the following pairs with regard to sports awards:

- 1. Major Dhyan Chand Khel Ratna Award For the most spectacular and outstanding performance by a sportsperson over period of last four years
- 2. Arjuna Award For the lifetime achievement by a sportsperson

3. Dronacharya Award To honour eminent coaches who have successfully trained sportspersons or teams
4. Rashtriya Khel Protsahan Puraskar To recognize the contribution made by sportspersons even after their retirement

How many of the above pairs are correctly matched?

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

Ans) b

Exp) Option b is the correct answer.

Pair 1 is correctly matched: The Khel Ratna Award is the highest sporting honour of India. It is awarded annually by the Ministry of Youth Affairs and Sports, Government of India. The recipient(s) is/are selected by a committee constituted by the Ministry and is honoured for their "**spectacular and most outstanding performance in the field of sports over a period of four years**" at international level. As of 2020, the award comprises a medallion, a certificate, and a cash prize of ₹25 lakh.

Pair 2 is incorrectly matched: The Arjuna Award, officially known as Arjuna Awards for Outstanding Performance in Sports and Games, is the second-highest sporting honour of India. The recipients are selected by a committee constituted by the Ministry and are honoured for their "**good performance in the field of sports over a period of four years**" at the international level and for having shown "qualities of leadership, sportsmanship and a sense of discipline.

Pair 3 is correctly matched: The Dronacharya Award, officially known as Dronacharya Award for Outstanding Coaches in Sports and Games, is **sports coaching honour of the Republic of India**. The award is named after Drona, often referred as "Dronacharya" or "Guru Drona", a character from the Sanskrit epic Mahabharata of ancient India. Recipients are selected by a committee constituted by the Ministry and are honoured to have done "**outstanding and meritorious work on a consistent basis and enabled sportspersons to excel in international events**" over a period of four years.

Pair 4 is incorrectly matched: The Rashtriya Khel Protsahan Puruskar is a sports honour of India. The award recognizes the "**involvement of corporates, voluntary organizations, and sports control boards, in the promotion and development of sports in the country**" over the previous three years.

Source: <https://olympics.com/en/news/national-sports-awards-india>

Q.56) Consider the following statements in respect of the 44th Chess Olympiad, 2022:

1. It was the first time that Chess Olympiad was held in India.
2. The official mascot was named Thambi'.
3. The trophy for the winning team in the open section is the Vera Menchik Cup.
4. The trophy for the winning team in the women's section is the Hamilton-Russell Cup.

How many of the statements given above are correct?

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

Ans) b

Exp) Option b is the correct answer.

44th FIDE Chess Olympiad 2022 was held at the Four Points by Sheraton Mahabalipuram Resort and Convention Centre in Poonjeri village in Mamallapuram/Mahabalipuram (a United Nations Educational, Scientific and Cultural Organization (UNESCO) heritage site) near Chennai, Tamil Nadu(TN), India from 28th July 2022 to 9th August 2022.

Statement 1 is correct: It was the **first time the Chess Olympiad is being hosted in India** and the first in Asia after 30 years. The 30th FIDE Chess Olympiad held in 1992 in Manila, Philippines was the last chess olympiad held in Asia.

Statement 2 is correct: The official mascot was named **'Thambi' (Younger Brother)**, a chess knight dressed in the traditional Tamil male attire *vetṭi* with a white shirt. He was depicted with folded hands, extending the Tamil greeting 'Vanakkam'.

Statement 3 and 4 are incorrect: The event saw the participation of 188 teams, representing 186 national federations in the **open section for the Hamilton-Russell Cup**, and 162 teams representing 160 federations in the **women's section for the Vera Menchik Cup**.

Source: <https://www.chess.com/events/2022-fide-chess-olympiad>

Q.57) Consider the following pairs:

Area of conflict mentioned in news	Country where it is located
------------------------------------	-----------------------------

- | | |
|-----------|-------------|
| 1. Donbas | Syria |
| 2. Kachin | Ethiopia |
| 3. Tigray | North Yemen |

How many of the above pairs are correctly matched?

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

Ans) d

Exp) Option d is the correct answer.

Pair 1 is incorrectly matched: Donetsk and Luhansk are **two states located in eastern Ukraine**, which share a border with Russia. Within these two states are two separatist territories known as the Donetsk People's Republic (DPR) and Luhansk People's Republic (LPR), which are run by Russian and Russian-

backed separatists. This entire region, which includes Donetsk, Luhansk and their respective separatist territories, is generally referred to as the 'Donbas' region.



Pair 2 is incorrectly matched: The Kachin region, also known as Kachin State, is a state located in the **northern part of Myanmar** (Burma). It shares borders with China to the north and east, Shan State to the south, and Sagaing Region to the west.



Pair 3 is incorrectly matched: The Tigray region, also known as the Tigray State, is a region located in the **northern part of Ethiopia**. It is one of the ten regional states that make up the federal system of Ethiopia. The first formal African Union-led peace talks between an Ethiopian government team and Tigray forces are happening in South Africa.



Source: Oxford Atlas + Newspapers online

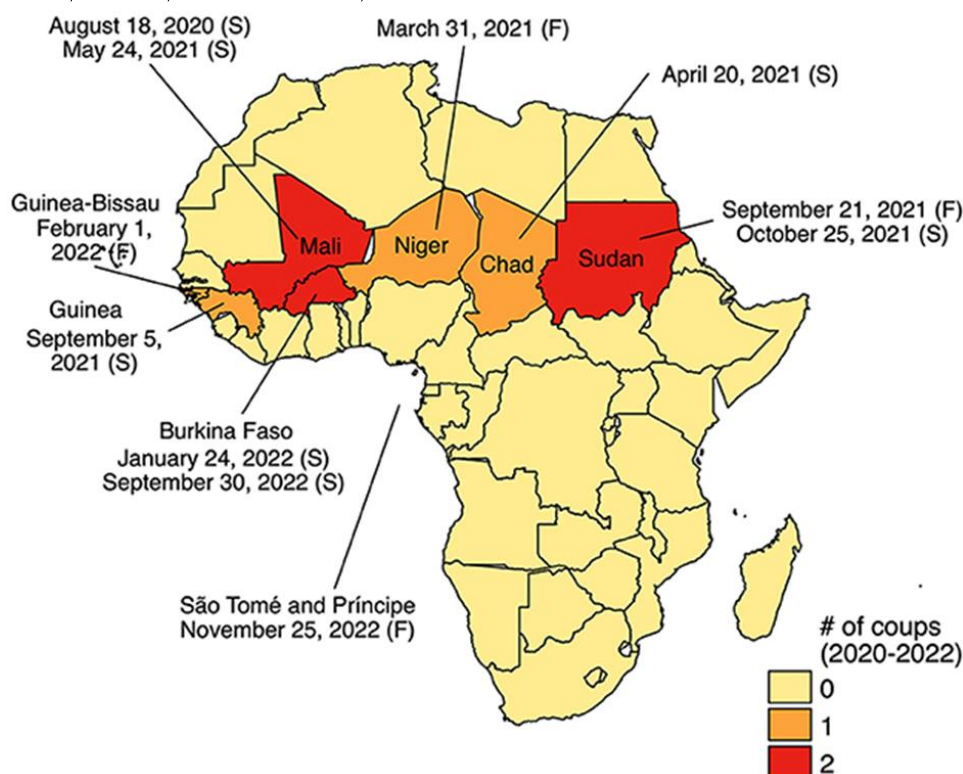
Q.58) In the recent years Chad, Guinea, Mali and Sudan caught the international attention for which one of the following reasons common to all of them?

- a) Discovery of rich deposits of rare earth elements
- b) Establishment of Chinese military bases
- c) Southward expansion of Sahara Desert
- d) Successful coups

Ans) d

Exp) Option d is the correct answer.

In recent years, Chad, Mali, Guinea, and Sudan **have experienced recent coup attempts or successful coups**. In the past 18 months, in similar scenes, military leaders have toppled the governments of Mali, Chad, Guinea, Sudan and now, Burkina Faso.



Source: <https://www.theafricareport.com/153400/chad-guinea-mali-sudan-can-a-coup-be-a-springboard-for-democracy/>

Q.59) Consider the following heavy industries:

1. Fertilizer plants
2. Oil refineries
3. Steel plants

Green hydrogen is expected to play a significant role in decarbonizing how many of the above industries?

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

d) None

Ans) c

Exp) Option c is the correct answer.

Green hydrogen can play a role in decarbonizing all of the mentioned heavy industries: fertilizer plants, oil refineries, and steel plants.

1. **Fertilizer Plants:** Fertilizer production is energy-intensive and often relies on fossil fuels, particularly natural gas. By using green hydrogen as a clean energy source, fertilizer plants can reduce their carbon emissions. Green hydrogen can be used to generate electricity or directly as a feedstock in the ammonia production process, which is a key component of fertilizer manufacturing.
2. **Oil Refineries:** Oil refineries are major contributors to greenhouse gas emissions due to their energy-intensive processes and reliance on fossil fuels. Green hydrogen can be utilized in oil refineries to replace or supplement fossil fuels, reducing their carbon footprint. Hydrogen can be used in refining processes, such as hydrocracking and hydrotreating, to remove impurities and improve the quality of fuels.
3. **Steel Plants:** The steel industry is responsible for a significant amount of global carbon emissions. Green hydrogen can be used as a reducing agent in the steelmaking process, replacing coal or coke. This process, known as direct reduction, enables the production of "green" or low-carbon steel. Additionally, green hydrogen can be utilized in the steel industry for heat generation and electricity production, further reducing carbon emissions.

Source: <https://www.iberdrola.com/sustainability/green-hydrogen#:~:text=Versatile%3A%20green%20hydrogen%20can%20be,commercial%2C%20industrial%20or%20mobility%20purposes.>

Q.60) Consider the following statements about G-20:

1. The G-20 group was originally established as a platform for the Finance Ministers and Central Bank Governors to discuss the international economic and financial issues.
2. Digital public infrastructure is one of India's G-20 priorities.

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

Ans) c

Exp) Option c is the correct answer.

Statement 1 is correct: The G20 was founded in 1999 after the Asian financial crisis as a forum for the Finance Ministers and Central Bank Governors to discuss global economic and financial issues.

Statement 2 is correct: India is pitching its digital infrastructure at G20 as an open-access platform. Digital Public Infrastructure is one of the key priorities during India's G20 Presidency. It is a cross-

cutting theme across various Working Groups including Digital Economy, Health, Education and Global Partnership for Financial inclusion.

Source: <https://www.g20.org/en/about-g20/>

- Q.61)** With reference to the Indian History, Alexander Rea, A. H. Longhurst, Robert Sewell, James Burgess and Walter Elliot were associated with
- archaeological excavations
 - establishment of English Press in Colonial India
 - establishment of Churches in Princely States
 - construction of railways in Colonial India

Ans) a

Exp) Option a is the correct answer.

All the mentioned personalities are associated with important archaeological excavations in India during the British India rule.

Option a is correct: Alexander Rea (1858-1924) was a **British archaeologist** who worked mainly in South British India. He is known for **unearthing a sarcophagus** from the hillocks of **Pallavaram in Tamil Nadu**.

Albert Henry Longhurst (1876 - 1955) was a **British archaeologist** and art historian, working in India and Ceylon. From 1927 to 1931 he was in charge of the **systematic digging of Nagarjunakonda**.

Robert Sewell (1845-1925) worked in the civil service of the Madras Presidency during the period of colonial rule in India. Sewell undertook archaeological work at the **Buddhist stupa at Amaravati**, which had already been largely destroyed prior to his arrival. **The site had previously been surveyed by** Colin Mackenzie and **Walter Elliot (1803-1887)**

James Burgess (1832 - 1916), was the founder of the Indian Antiquary in 1872 and an important **archaeologist** of British India in the 19th century. **From 1886-89 he was Director General, Archaeological Survey of India.**

Source: <https://timesofindia.indiatimes.com/city/chennai/asi-unearths-2300-year-old-terracotta-coffin-at-pallavaram/articleshow/64754538.cms>

<https://tourism.ap.gov.in/assets/img/Brochures/AP%20Buddhist%20Places%20Brochure.pdf>

Q.62) Consider the following pairs:

- | Site | : Well known for |
|-----------------|------------------------|
| 1. Besnagar | : Shaivite cave shrine |
| 2. Bhaja | : Buddhist cave shrine |
| 3. Sittanavasal | : Jain cave shrine |

How many of the above pairs are correctly matched?

- Only one
- Only two
- All three
- None

Ans) b

Exp) Option b is the correct answer

Pair 1 is incorrect: Besnagar also known as Vidisha is a town located in modern Madhya Pradesh. On the outskirts of Besnagar (Vidisha), stands the quaint Heliodorus Pillar dedicated to the **God Vishnu**, set up by a **Greek named Heliodorus** who is said to have adopted Hinduism and became a **disciple of Lord Vishnu**. Today, the pillar is worshipped by the locals as "Khamba Baba" and so the **Besnagar site is well known for Vaishnavite sect not Shaivite sect**.

Pair 2 is correct: Bhaja Caves is a group of 22 rock cut caves built during the 2nd century BC. This cave is also known as Bhaje caves and is located in Pune district, near Lonavala, Maharashtra. The Caves **belong to the Hinayana Buddhism sect in Maharashtra**. The cave consists of numerous stupas and the most prominent excavation is chaitya griha- cave XII.

Pair 3 is correct: Sithannavasal caves located in Pudukottai District of modern Tamil Nadu **belong to Jainism**. In ancient days the Jain Monks used to live in caves and hillocks so as to perform their ascetic life. They polished the hill for the purpose of poojas and penance in the open shelter.

Source: <https://www.buddhist-art.com/blog/bhaja-caves/>

<https://www.mptourism.com/vidisha-gyaraspur-udaigiri-caves.html#:~:text=to%20the%20God-,Vishnu,-%2C%20set%20up%20by>

<https://pudukkottai.nic.in/tourist-place/chithannavasal/>

Q.63) Consider the following statements

Statement-I

7th August is declared as the National Handloom Day.

Statement-II

It was in 1905 that the Swadeshi Movement was launched on the same day.

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

- a) Both Statement-1 and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- c) Statement-I correct but Statement-II is incorrect
- d) Statement-I is incorrect but Statement-II is correct

Ans) a

Exp) Option a is the correct answer.

The **first National Handloom Day was held on 7th August 2015**. On this day, the handloom weaving community is honoured and the contribution of this sector in the socio-economic development of this country is highlighted.

Statement 1 is correct: The National Handloom Day is observed annually on 7th August to honour the handloom weavers in the country and also highlight India's handloom industry.

Statement 2 is correct: August 7 was chosen as the National Handloom Day to commemorate the Swadeshi Movement which was launched on August 7 in 1905 in Calcutta Town Hall to protest against the partition of Bengal by the British Government. The Swadeshi movement had aimed at reviving

Statement-I:

The Constitution Day is celebrated on 26th November every year to promote constitutional values among citizens.

Statement-II:

On 26th November, 1949, the Constituent Assembly of India set up a Drafting Committee under the Chairmanship of Dr. B. R. Ambedkar to prepare a Draft Constitution of India.

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

- a) Both Statement-1 and Statement-II are correct and Statement-1 is the correct explanation for Statement-I
- b) Both Statement-1 and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- c) Statement-I is correct but Statement-II is incorrect
- d) Statement-I is incorrect but Statement-II is correct

Ans) c

Exp) Option c is the correct answer

The Constituent Assembly of India was constituted in November 1946 under the scheme formulated by the Cabinet Mission Plan, 1946. The assembly deliberated on the matters related to formation and provisions of the Constitution of India.

Statement 1 is correct: In India, the Constitution Day is celebrated in India on **26 November** every year to commemorate the **adoption of the Constitution of India** and also it was celebrated to promote the **constitutional values among the citizens of India**.

Statement 2 is incorrect: On **29 August 1947**, the Constituent Assembly **set up a Drafting Committee** under the Chairmanship of Dr. B.R. Ambedkar, to prepare a Draft Constitution for India. **On 26 November 1949, the Constituent Assembly of India adopted the Constitution** of India, and it came into effect on 26 January 1950.

Source: <https://www.mygov.in/campaigns/constitution-day/#:-:text=Constitution%20Day%27%20to-,promote,-Constitution%20values%20among>

Q.66) Consider the following statements:

Statement-I:

Switzerland is one of the leading exporters of gold in terms of value.

Statement-II:

Switzerland has the second largest gold reserves in the world.

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

- a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.
- b) Both Statement-1 and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.
- c) Statement-I is correct but Statement-II is incorrect.
- d) Statement-I is incorrect but Statement-II is correct.

Ans) c

Exp) Option c is the correct answer

Statement 1 is correct: It is true that Switzerland is the leading exporter of gold in the world. In 2021, Switzerland exported **\$86.7B in Gold, making it the 1st largest exporter of Gold in the world**. The main **destinations** of Gold exports from Switzerland are: **India (\$29.3B), China (\$16B)**, United States (\$8.13B), Germany (\$5.8B), and Hong Kong (\$4.67B).

Statement 2 is incorrect: Switzerland does not have the second largest gold reserves in the world, rather it has the **seventh largest gold reserve in the world**. The **top three** countries with largest gold reserves in the world are the **United States of America (USA) followed by Germany, Italy**.

Source: [https://oec.world/en/profile/bilateral-](https://oec.world/en/profile/bilateral-product/gold/reporter/c#~:text=it%20the%201st-,largest,-exporter%20of%20Gold)

[product/gold/reporter/c#~:text=it%20the%201st-,largest,-exporter%20of%20Gold](https://oec.world/en/profile/bilateral-product/gold/reporter/c#~:text=it%20the%201st-,largest,-exporter%20of%20Gold)

<https://www.statista.com/statistics/267998/countries-with-the-largest-gold-reserves/>

Q.67) Consider the following statements:

Statement-I:

Recently, the United States of America (USA) and the European Union (EU) have launched the Trade and Technology Council".

Statement-II:

The USA and the EU claim that through this they are trying to bring technological progress and physical productivity under their control.

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

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

Ans) c

Exp) Option c is the correct answer

Statement 1 is correct: Trade and Technology Council was launched by the the United States of America and the European Union during the EU-US Summit on 15 June 2021 in Brussels.

Statement 2 is incorrect: Trade and Technology council, the USA and EU does not aim to bring technological progress and physical productivity under their control. Rather the initiative intends to **promote pooling of digital resources** such as AI models and computing power, and make them **available to partner countries to address challenges** in areas such as climate change and extreme weather, healthcare or smart agriculture.

Source: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/stronger-europe-world/eu-us-trade-and-technology-council_en

Q.68) Consider the following statements:

Statement-I:

India accounts for 3.2% of global export of goods.

Statement-II:

Many local companies and some foreign companies operating in India have taken advantage of India's Production-linked Incentive' scheme.

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

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

Ans) d

Exp) Option d is the correct answer.

Statement 1 is incorrect: As per the latest data available (Economic Survey 2022-23) **India's accounts for 1.8% of Global export of goods** and 4% of global export of services. Thus India accounts for 3.2% if global exports of goods are not correct.

SOURCE: ECONOMIC SURVEY 2022-23

Table XI.1: Key aspects of India's trade (Calendar year-wise)

	2019	2020	2021
Export performance (in per cent)			
Share in World Merchandise Exports	1.7	1.6	1.8
Share in World Commercial Services Exports	3.5	4.0	4.0
Share in World Merchandise Plus Services Exports	2.1	2.1	2.2
Import Performance (in per cent)			
Share in World Merchandise Imports	2.5	2.1	2.5
Share in World Commercial Services Imports	3.0	3.2	3.5
Share in World Merchandise Plus Services Imports	2.6	2.3	2.7

Statement 2 is correct: Production Linked Incentive (PLI) scheme is a form of Performance-linked incentive given to companies based on their incremental sales from products manufactured in domestic units. It is aimed at boosting the manufacturing sector and to reduce imports of India.

PLI schemes can be availed by both domestic as well as foreign companies operating in India, thus it is true that **many domestic and foreign companies operating in India have taken advantage of PLI schemes.**

Source: Economic Survey 2022-23 (pg no 315)

<https://economictimes.indiatimes.com/news/economy/foreign-trade/indias-exports-in-fy23-to-reach-about-770-billion-minister-anupriya-patel/articleshow/98524918.cms?from=mdr>

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1710134>

Q.69) Consider the following statements:

The Stability and Growth Pact of the European Union is a treaty that

- 1. limits the levels of the budgetary deficit of the countries of the European Union
- 2. makes the countries of the European Union to share their infrastructure facilities

3. enables the countries of the European Union to share their technologies

How many of the above statements are correct?

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

Ans) a

Exp) Option a is the correct answer

The **Stability and Growth Pact (SGP)** is an agreement, among all of the **27 member states of the European Union**, to facilitate and maintain the economic stability of the EU countries. The European Commission and the Council of the European Union, monitors the fiscal condition of EU member countries from time to time to ensure their fiscal stability.

Statement 1 is correct: It is true that **SGP aims to level the budget deficits of European countries**. The corrective arm of the Stability and Growth Pact ensures that Member States adopt **appropriate policy responses to correct excessive deficits (and/or debts) by implementing the Excessive Deficit Procedure (EDP)**.

Also the SGP requires the EU Member States to lay out their fiscal plans for the next three years to limit their budget deficits.

Statement 2 and 3 are incorrect: The SGP treaty does not require its members to share their infrastructure facilities nor their technologies with other countries. The **purpose** of the SGP was to **ensure that fiscal discipline would be maintained and enforced in the European Union**.

Source: https://economy-finance.ec.europa.eu/economic-and-fiscal-governance/stability-and-growth-pact_en#:~:text=arm%20of%20the-,Stability,-and%20Growth%20Pact

Q.70) Consider the following statements:

- 1. Recently, all the countries of the United Nations have adopted the first-ever compact for international migration, the Global Compact for Safe, Orderly and Regular Migration (GCM).
- 2. The objectives and commitments stated in the GCM are binding on the UN member countries.
- 3. The GCM addresses internal migration or internally displaced people also in its objectives and commitments.

How many of the above statements are correct?

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

Ans) d

Exp) Option d is the correct answer.

The Global Compact for Safe, Orderly and Regular Migration is an **intergovernmental agreement, prepared under the overall aegis of the United Nations**. It is the first inter-governmental agreement covering international migration in a holistic and comprehensive manner.

Statement 1 is incorrect: So far **only 163 countries have adopted** the Global Compact for Safe, Orderly and Regular Migration (GCM), **the United States, Hungary, Israel, Czech Republic and Poland** are some of the countries that voted against the compact.

Statement 2 is incorrect: The Global Compact for Migration is a non-legally binding agreement. It is grounded in values of state sovereignty, responsibility-sharing and recognises that a cooperative approach is needed to optimise the overall benefits of migration.

Statement 3 is incorrect: The global compact comprises **23 objectives** for better managing migration at **local, national, regional and global levels. The objectives can be seen as a guide for States to meet their human rights obligation. It doesnot addresses the issue of internal migration or internally displaced people.**

Source: <https://odi.org/en/insights/163-states-just-approved-the-global-compact-for-migration-now-what/#:~:text=On%20Monday-,163,-countries%20approved%20the>

<https://refugeesmigrants.un.org/migration-compact>

<https://refugeesmigrants.un.org/migration-compact#:~:text=migration%20at%20local%2C-,national,-%2C%20regional%20and%20global>

Q.71) Consider the following countries

1. Bulgaria
2. Czech Republic
3. Hungary
4. Latvia
5. Lithuania
6. Romania

How many of the above countries share a land border with Ukraine?

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

Ans) a

Exp) Option a is the correct answer.

Ukraine is bordered by Belarus to the north, Russia to the east, the Sea of Azov and the Black Sea to the south, Moldova and Romania to the southwest, and Hungary, Slovakia, and Poland to the west.



In the given countries only Hungary and Romania are correct. Thus only two are correct.

Source: <https://www.britannica.com/place/Ukraine>

Q.72) With reference to the Earth's atmosphere, which one of the following statements is correct?

- The total amount of insolation received at the equator is roughly about 10 times of that received at the poles.
- Infrared rays constitute roughly two-thirds of insolation.
- Infrared waves are largely absorbed by water vapour that is concentrated in the lower atmosphere.
- Infrared waves are a part of visible spectrum of electromagnetic waves of solar radiation.

Ans) c

Exp) Option c is the correct answer.

Option a is incorrect: While it is true that the equator receives more direct sunlight compared to the poles, the actual difference in insolation is not as large as ten times. The difference in insolation between the equator and poles is primarily due to the curvature of the Earth and the tilt of its axis, resulting in varying angles at which sunlight reaches different latitudes.

Option b is incorrect: Insolation refers to the total solar radiation received at the Earth's surface, which includes a broad spectrum of electromagnetic radiation. While infrared radiation is a significant component of solar radiation, it does not account for two-thirds of the insolation. Insolation includes visible light, ultraviolet (UV) radiation, and other wavelengths as well.

Option c is correct: Water vapor is a potent absorber of infrared radiation, particularly in certain wavelength bands. In the lower atmosphere, where water vapor concentration is relatively higher, it absorbs a significant amount of infrared radiation emitted by the Earth's surface. This absorption contributes to the greenhouse effect and plays a crucial role in regulating the Earth's temperature.

Option d is incorrect: Infrared waves and visible light waves are distinct parts of the electromagnetic spectrum. The visible spectrum ranges from approximately 400 to 700 nanometers and includes the colors we perceive, such as red, orange, yellow, green, blue,

and violet. Infrared radiation, on the other hand, has longer wavelengths than visible light and is not visible to the human eye. It lies just beyond the red end of the visible spectrum and is typically divided into near-infrared, mid-infrared, and far-infrared regions based on wavelength.

Source: <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2005JD006796>

<https://www.ces.fau.edu/nasa/module-2/how-greenhouse-effect-works.php>

http://www.soest.hawaii.edu/mguidry/Unnamed_Site_2/Chapter%202/Chapter2B2.html

Q.73) Consider the following statements:

Statement-I

The soil in tropical rain forests is rich in nutrients

Statement-II

The high temperature and moisture of tropical rain forests cause dead organic matter in the soil to decompose quickly.

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

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

Ans) d

Exp) Option d is the correct answer

Statement 1 is incorrect: Tropical rain forest soil is very poor in nutrient which are required by plants to grow. This is due to acidic nature of soil and incessant rains. Potassium, calcium, magnesium and phosphorous are lost away due to leaching. Thus regeneration is very slow.

Statement 2 is correct: Tropical rainforests typically experience warm and consistent temperatures throughout the year. These elevated temperatures enhance the activity of soil microorganisms responsible for decomposing organic matter. Increased microbial activity leads to faster decomposition rates. Rainforests receive abundant rainfall, creating high levels of soil moisture. Moisture is crucial for microbial activity and the breakdown of organic matter. It facilitates the enzymatic processes involved in decomposition, providing a suitable environment for decomposers like bacteria and fungi.

Source: [https://forumias.com/portal/solutions-the-wednesday-geo-and-env-quiz-](https://forumias.com/portal/solutions-the-wednesday-geo-and-env-quiz-2/#:~:text=Explanation%2DTropical%20rain%20forest%20soil,Thus%20regeneration%20is%20very%20slow)

[2/#:~:text=Explanation%2DTropical%20rain%20forest%20soil,Thus%20regeneration%20is%20very%20slow](https://forumias.com/portal/solutions-the-wednesday-geo-and-env-quiz-2/#:~:text=Explanation%2DTropical%20rain%20forest%20soil,Thus%20regeneration%20is%20very%20slow)

<https://www.conserve-energy-future.com/tropical-rainforest-biome.php>

Q.74) Consider the following statements

Statement-I:

The temperature contrast between is greater continents and oceans during summer than in winter.

Statement-II:

The specific heat of water is more than that of land surface.

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

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

Ans) d

Exp) Option d is the correct answer.

Statement 1 is incorrect: This statement is incorrect as the temperature contrast between the continents and oceans is more during the winter rather than summer.

Statement 2 is correct: This statement is also true. Specific heat is the amount of heat energy required to raise the temperature of a substance by a certain amount. Water has a relatively high specific heat compared to land surfaces. This means that it takes a larger amount of heat energy to raise the temperature of water compared to an equal mass of land surface material by the same amount. The high specific heat of water is due to its molecular structure and the presence of hydrogen bonding, which allows water to absorb and store a significant amount of heat energy.

Explanation: The higher specific heat of water (Statement 2) is a valid explanation for the temperature contrast between continents and oceans during summer (Statement 1). When the sun's energy is absorbed by the land surface, the land heats up quickly due to its lower specific heat. As a result, the temperature of the land surface rises rapidly during the summer season. In contrast, the ocean's higher specific heat causes it to heat up more slowly. The ocean absorbs and stores a larger amount of heat energy from the sun, leading to a slower increase in temperature. This temperature contrast between land and ocean creates the conditions for temperature differences to be more pronounced during the summer months.

Source: <https://ncert.nic.in/ncerts/l/kegy213.pdf>

Q.75) Consider the following statements :

- 1. In a seismograph, P waves are recorded earlier than S waves.
- 2. In P waves, the individual particles vibrate to and fro in the direction of wave propagation whereas in S waves, the particles vibrate up and down at right angles to the direction of wave propagation.

Which of the statements given above is/are correct?

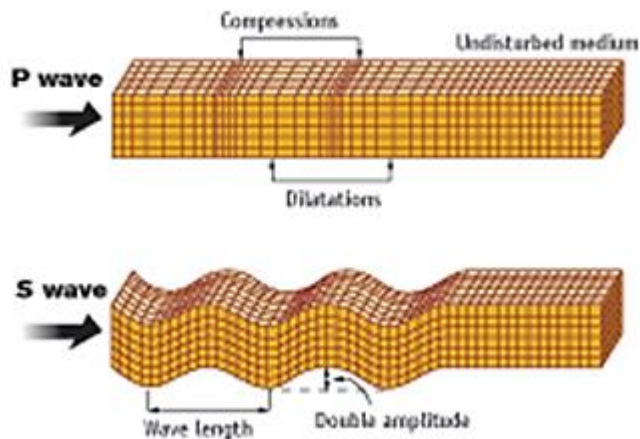
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Ans) c

Exp) Option c is the correct answer.

Statement 1 is correct: P waves, or Primary waves, are the first waves to arrive at a seismograph. P waves are the fastest seismic waves and can move through solid, liquid, or gas. They leave behind a trail

of compressions and rarefactions on the medium they move through. P waves are also called pressure waves for this reason.



Statement 2 is correct: P waves are longitudinal waves, which means that the particle motion occurs parallel to the direction of wave propagation. These waves are compression waves, where particles oscillate back and forth in the same direction that the wave is traveling. As a result, the individual particles vibrate to and fro in the direction of wave propagation. On the other hand, S waves are transverse waves, where particle motion occurs perpendicular (at right angles) to the direction of wave propagation. These waves cause the particles to move up and down or side to side perpendicular to the direction of the wave. Therefore, in S waves, the particles vibrate up and down at right angles to the direction of wave propagation.

Source: <https://ncert.nic.in/ncerts/l/kegy203.pdf>

<https://blog.forumias.com/question/consider-the-following-statements-regarding-the-earthquake-waves1-p-waves-are-similar-to-sound-waves-2-s-waves-travel-through-solid-materials-only-which-of-the-statements-given-above-is-are-c/>

Q.76) With reference to coal-based thermal power plants in India, following statements:

1. None of them uses seawater.
2. None of them is set up in water-stressed district.
3. None of them is privately owned.

How many of the above statements are correct?

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

Ans) d

Exp) Option d is the correct answer.

Statement 1 is incorrect- The Mundra Thermal Power Plant employs a closed-cycle induced draft circulating cooling water system that utilizes seawater. Seawater is drawn from the Gulf of Kutch through robust glass reinforced pipes of significant diameter. In addition, purified seawater from a reverse osmosis plant is utilized by various supplementary systems.

Statement 2 is incorrect- According to recent research by WRI (World Resources Institute), 40 percent of India's thermal power plants are situated in regions experiencing significant water stress. This poses a challenge as these plants rely on water for cooling purposes. The scarcity of water is already causing disruptions in electricity generation in these areas, with 14 out of India's 20 largest thermal utilities having experienced at least one shutdown between 2013 and 2016 due to water shortages. These shutdowns have resulted in significant financial losses, amounting to \$1.4 billion for the affected companies.

Statement 3 is incorrect- India has a total of 269 Thermal Power Plants, with 138 of them being owned by the public sector and the remaining 131 owned by the private sector.

Source: <https://www.nsenergybusiness.com/projects/mundra-thermal-power-project/>
https://cea.nic.in/wp-content/uploads/pdm/2021/06/list_power_stations_2021.pdf

Q.77) 'Wolbachia method' is sometimes talked about with reference to which one of the following?

- a) Controlling the viral diseases spread by mosquitoes.
- b) Converting crop residues into packing material.
- c) Producing biodegradable plastics.
- d) Producing biochar from thermo- chemical conversion of biomass.

Ans) a

Exp) Option a is the correct answer.

The "Wolbachia method" is a technique used to control the spread of viral diseases transmitted by mosquitoes, such as dengue, Zika, and chikungunya. Wolbachia is a type of bacterium that can be introduced into mosquitoes to reduce their ability to transmit these diseases. When mosquitoes carrying Wolbachia mate with mosquitoes without Wolbachia, the resulting eggs do not hatch or produce offspring, thus reducing the population of disease-carrying mosquitoes.

Source: <https://www.thehindu.com/sci-tech/science/indonesian-researchers-breed-good-mosquitoes-to-combat-dengue/article37278167.ece>

Q.78) Consider the following activities :

1. Spreading finely ground best rock on farmlands extensively
2. Increasing the alkalinity of by adding lime
3. Capturing carbon dioxide released by various industries and pumping into abandoned subterranean mines in the form of carbonated waters

How many of the above activities are often considered and discussed for carbon capture and sequestration?

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

Ans) c

Exp) Option c is the correct answer.

Statement 1 is correct- Spreading finely ground basalt rock on farmlands extensively: This activity, known as enhanced weathering, involves spreading finely ground basalt rock on farmlands to accelerate the natural process of carbon dioxide capture from the atmosphere. The basalt reacts with carbon dioxide to form stable carbonates, effectively storing carbon.

Statement 2 is correct- Increasing the alkalinity of oceans by adding lime: This approach, known as ocean alkalinity enhancement, involves adding lime (calcium oxide or calcium hydroxide) to the oceans to increase their alkalinity. This process enhances the capacity of the oceans to absorb and store carbon dioxide from the atmosphere, thereby aiding in carbon sequestration.

Statement 3 is correct- Capturing carbon dioxide released by various industries and pumping it into abandoned subterranean mines in the form of carbonated waters: This activity refers to carbon capture and storage (CCS), where carbon dioxide emissions from industrial processes are captured and stored underground. Abandoned subterranean mines can serve as suitable storage sites, with the captured carbon dioxide pumped into these locations in the form of carbonated waters.

Source: Shankar IAS

<https://www.theguardian.com/environment/2020/jul/08/spreading-rock-dust-on-fields-could-remove-vast-amounts-of-co2-from-air>

<https://www.american.edu/sis/centers/carbon-removal/fact-sheet-ocean-alkalinization.cfm#:~:text=Ocean%20alkalinization%20is%20an%20approach,lime%20or%20some%20industrial%20byproducts.>

Q.79) Aerial metagenomics best refers to which one of the following situations?

- a) Collecting DNA samples from air in a habitat at one go
- b) Understanding the genetic makeup of avian species of a habitat
- c) Using air-borne devices to collect blood samples from moving animals
- d) Sending drones to inaccessible areas to collect plant and animal samples from land surfaces and water bodies

Ans) a

Exp) Option a is the correct answer.

"Aerial metagenomics" refers to the collection and analysis of DNA samples from the air or aerosol particles present in a specific habitat. It involves sampling the air in a particular environment to capture the genetic material (DNA) present in microorganisms, including bacteria, viruses, fungi, and other microscopic organisms.

Source:

<https://www.economist.com/science-and-technology/2022/01/08/wildlife-can-now-be-detected-by-sniffing-dna-in-the-air>

Q.80) Microsatellite DNA is used in the case of which one of the following?

- a) Studying evolutionary relationships among various species of fauna
- b) Stimulating stem cells transform into diverse functional tissues
- c) Promoting clonal propagation of horticultural plant
- d) Assessing the efficacy of drugs by conducting series of drug trials in a population

Ans) a

Exp) Option a is the correct answer.

Microsatellite DNA, also known as short tandem repeats (STRs), is a type of genetic marker that consists of repeating sequences of DNA. It is commonly used in genetic studies, including population genetics and phylogenetic analysis, to study relationships among different species of fauna.

Microsatellites are highly polymorphic and vary in length due to differences in the number of repeat units. By analyzing the variations in microsatellite DNA sequences among individuals or populations, researchers can assess genetic diversity, population structure, and evolutionary relationships within and between species.

Source: <https://www.nature.com/articles/s41598-020-77480-6>

Q.81) Consider the following statements in relation to Janani Suraksha Yojana :

1. It is a safe motherhood intervention of the State Health Departments.
2. Its objective is to reduce maternal and neonatal mortality among poor pregnant women.
3. It aims to promote institutional delivery among poor pregnant women.
4. Its objective includes providing public health facilities to sick infants up to one year of age.

How many of the statements given above are correct?

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

Ans) b

Exp) Option b is the correct answer.

Janani Suraksha Yojana was launched in April 2005 by modifying the National Maternity Benefit Scheme (NMBS). The NMBS came into effect in August 1995 as one of the components of the National Social Assistance Programme (NSAP).

Statement 1 is incorrect: Janani Suraksha Yojana (JSY) is a safe motherhood intervention under the **National Health Mission (NHM)**. *Janani Suraksha Yojana (JSY) is a safe motherhood intervention under the National Rural Health Mission (NHM). It is not the intervention of the State Health Departments.*

Statement 2 is correct: The main objectives of JSY are to **reduce maternal and neo-natal mortality**. It is being implemented with the objective of **reducing maternal and infant mortality by promoting institutional delivery among pregnant women**. The scheme is under implementation in all states and Union Territories (UTs), with a special focus on Low Performing States (LPS).

Statement 3 is correct: Launched with the objective of reducing maternal and neonatal mortality. **Janani Suraksha Yojana (JSY) promotes institutional delivery among pregnant women especially with weak socio-economic status** i.e. women from Scheduled Castes, Scheduled Tribes and BPL households.

Statement 4 is incorrect: All pregnant women and infants will get free treatment benefits at public health institutions. The objective doesnot includes providing public health facilities to sick infants up to one year of age.

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=1575157>

<https://nhm.gov.in/index1.php?lang=1&level=3&lid=309&sublinkid=841>

<https://vikaspedia.in/health/nrhm/national-health-programmes-1/janani-suraksha-yojana>

Q.82) Consider the following statements in the context of interventions being undertaken under Anaemia Mukt Bharat Strategy:

1. It provides prophylactic calcium supplementation for pre-school children, adolescents and pregnant women.
2. It runs a campaign for delayed cord clamping at the time of child- birth.
3. It provides for periodic deworming to children and adolescents.
4. It addresses non-nutritional causes of anaemia in endemic pockets with special focus on malaria, hemoglobinopathies and fluorosis.

How many of the statements given above are correct?

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

Ans) c

Exp) Option c is the correct answer.

Statement 1 is incorrect: Prophylactic Iron Folic Acid supplementation (not Prophylactic calcium) given to children, adolescents, women of reproductive age and pregnant women, irrespective of anemia is a key continued intervention.

Statement 2 is correct: Promotion and monitoring of delayed clamping of the umbilical cord for at least 3 minutes (or until cord pulsations cease) for newborns across all health facilities will be carried out for improving the infant's iron reserves up to 6 months after birth. Simultaneously, all birth attendants should make an effort to ensure early initiation of breastfeeding within 1 hour of birth.

Statement 3 is correct: The Anemia Mukt Bharat, also integrates deworming of women of reproductive age and for pregnant women as part of the NDD strategy. Bi-annual mass deworming for children in the age groups between 1-19 years is carried out on designated dates – 10th February and 10th August every year under National Deworming Day (NDD) programme.

Statement 4 is correct: The Anemia Mukt Bharat strategy attempts to intensify awareness and integrate screening and treatment for **non-nutritional causes of anemia with special focus on malaria, haemoglobinopathies and fluorosis.**

Source: <https://anemiamukt Bharat.info/interventions/#2nd>

<https://vikaspedia.in/health/health-campaigns/anemia-mukt-bharat>

Q.83) Consider the following statements :

1. Carbon fibres are used in the manufacture of components used in automobiles and aircrafts.
2. Carbon fibres once used cannot be recycled

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

Ans) a

Exp) Option a is the correct answer.

Statement 1 is correct: Carbon fibre is increasingly celebrated as a wonder material for the clean economy. Its unique combination of high strength and low weight has helped drive the wind power revolution and **make planes more fuel efficient. Auto makers** are also waking up to the material's potential to **make lighter and more efficient vehicles.**

Statement 2 is incorrect: The carbon fibre can be recycled though difficult to recycle. There is need to divert carbon fibre from landfill, they could open the gates for **use of recycled carbon fibre in cars, bikes and for dozens of other applications.** They could also save a lot of energy since the production of virgin material is the most energy-intensive part of the process. **Recycled carbon fibre often ends up in tennis rackets and golf clubs,** where low weight (and the cachet of carbon fibre) is more important than strength

Source:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9324376/#:~:text=Currently%2C%20carbon%20fibre%20waste%20or,which%20are%20also%20called%20scrap.>

Q.84) Consider the following actions:

1. Detection of car crash/collision which results in the deployment of airbags almost instantaneously
2. Detection of accidental free fall of a laptop towards the ground which results in the immediate turning off of the hard drive
3. Detection of the tilt of the smart- phone which results in the rotation of display between portrait and landscape mode

In how many of the above actions is the function of accelerometer required?

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

Ans) c

Exp) Option c is the correct answer.

Accelerometers are devices that measure the vibration, or acceleration of motion of a structure. They have a transducer that converts mechanical force caused by vibration or a change in motion, into an electrical current using the piezoelectric effect.

Statement 1 is correct: Any reliable car crash detection system requires an accelerometer that can measure up to several hundreds of g-force accelerations. In the event of a crash, **the crash sensor (an accelerometer) sends a signal to the airbag control unit.** This control unit triggers the inflation device, which generates nitrogen gas by igniting a mixture of sodium azide (NaN_3) and potassium nitrate (KNO_3).

Statement 2 is correct: Accelerometers in laptops protect hard drives from damage. If the laptop were to suddenly drop while in use, the accelerometer would detect the sudden free fall and immediately turn off the hard drive to avoid hitting the reading heads into the hard drive platter.

Statement 3 is correct: An accelerometer detects acceleration, vibration, and tilt to determine movement and exact orientation along the three axes. Apps use this smartphone sensor to determine whether your phone is in portrait or landscape orientation. It can also tell if your phone screen is facing upward or downward.

Source:

https://web.iitd.ac.in/~jay/dsl732/studentpages/dds196001/private_html/assignment4.html#:~:text=Accelerometer,is%20facing%20upward%20or%20downward.

[https://cecas.clemson.edu/cvel/auto/systems/airbag_deployment.html#:~:text=In%20the%20event%20of%20a,potassium%20nitrate%20\(KNO3\)](https://cecas.clemson.edu/cvel/auto/systems/airbag_deployment.html#:~:text=In%20the%20event%20of%20a,potassium%20nitrate%20(KNO3)).

Q.85) With reference to the role of biofilters in Recirculating Aquaculture System, consider the following statements:

1. Biofilters provide waste treatment by removing uneaten fish feed.
2. Biofilters convert ammonia present in fish waste to nitrate.
3. Biofilters increase phosphorus as nutrient for fish in water.

How many of the statements given above are correct?

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

Ans) b

Exp) Option b is the correct answer.

Biological filters are devices to culture microorganisms that will perform a given task for us. Different types of organisms will perform different tasks. Part of the art of designing and using biofilters is to create an environment that will promote the growth of the organisms that are needed.

Statement 1 is correct: A biofilter system helps in waste treatment by removing uneaten fish feed. They make use microorganisms which are capable of degrading a number of compounds like uneaten fish feed and thus helps in breaking down pollutants.

Statement 2 is correct: Ammonia is removed from an aquarium system through the use of a biofilter. The biofilter provides a substrate on which nitrifying bacteria grow. These nitrifying bacteria consume ammonia and produce nitrite, which is also toxic to fish. Other nitrifying bacteria in the biofilter consume nitrite and **produce nitrate**.

Statement 3 is incorrect: Biofilters are used to reduce (not increase) the amount of phosphorus in water. Submerged flow biofilters, utilising a filter media were **used to remove nitrogen and phosphorus** from a synthetic fish farm water. The cyclic aerated/unaerated combined nutrients removal system achieved approximately 40 percent phosphorus removal, complete nitrification and 40 percent denitrification.

Source:

https://www.researchgate.net/publication/351090677_TREATMENT_OF_WATER_USING_BIOFILTER_IN_RECIRCULATING_AQUACULTURE

<https://www.fdacs.gov/Consumer-Resources/Recreation-and-Leisure/Aquarium-Fish/Aquarium-Water-Quality-Nitrogen-Cycle>

<https://cals.arizona.edu/azaqua/ista/ISTA7/RecircWorkshop/Workshop%20PP%20%20%26%20Misc%20Papers%20Adobe%202006/5%20Solids%20Capture/Solids%20Control.pdf>

Q.86) Consider the following pairs:

Objects in space : Description

1. Cepheids : Giant clouds of dust and gas in space
2. Nebulae : Stars which brighten and dim periodically
3. Pulsars : Neutron stars that are formed when massive stars run out of fuel and collapse

How many of the above pairs are correctly matched ?

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

Ans) a

Exp) Option a is the correct answer.

Pair 1 is incorrect: Cepheids, also called Cepheid Variables, are stars which brighten and dim periodically. This behavior allows them to be used as cosmic yardsticks out to distances of a few tens of millions of light-years. The brighter the Cepheid, the longer its period. In fact, Cepheids are very special variable stars because their period (the time they take to brighten, dim and brighten again) is regular (that is, does not change with time), and a uniform function of their brightness. That is, there is relation between the period and brightness such that once the period is known, the brightness can be inferred.

Pair 2 is incorrect: A nebula is a giant cloud of dust and gas in space. Some nebulae (more than one nebula) come from the gas and dust thrown out by the explosion of a dying star, such as a supernova. Other nebulae are regions where new stars are beginning to form. For this reason, some nebulae are called "star nurseries."

Pair 3 is correct: Pulsars are neutron stars. Pulsars are rotating neutron stars observed to have pulses of radiation at very regular intervals that typically range from milliseconds to seconds. A pulsar is the crushed core of a massive star that ran out of fuel, collapsed under its own weight and exploded as a supernova.

Source: <https://starchild.gsfc.nasa.gov/docs/StarChild/questions/cepheids.html>

[https://spaceplace.nasa.gov/nebula/#:~:text=video%2Fmp4\).-](https://spaceplace.nasa.gov/nebula/#:~:text=video%2Fmp4).-)

,A%20nebula%20is%20a%20giant%20cloud%20of%20dust%20and%20gas,are%20called%20%22star%20nurseries.%22

Q.87) Which one of the following countries has its own Satellite Navigation System?

- a) Australia

- b) Canada
- c) Israel
- d) Japan

Ans) d

Exp) Option d is the correct answer.

Global navigation satellite system (GNSS) is a general term describing any satellite constellation that provides positioning, navigation, and timing (PNT) services on a global or regional basis.

Option d is correct: Quasi-Zenith Satellite System (QZSS) is a regional GNSS owned by the Government of Japan and operated by QZS System Service Inc. (QSS). QZSS complements GPS to improve coverage in East Asia and Oceania. Japan declared the official start of QZSS services in 2018 with 4 operational satellites, and plans to expand the constellation to 7 satellites by 2023 for autonomous capability.

Source: <https://www.gps.gov/systems/gnss/>

Q.88) Consider the following statements

1. Ballistic missiles are jet-propelled at subsonic speeds throughout their flights, while cruise missiles are rocket-powered only in the initial phase of flight.
2. Agni-V is a medium-range supersonic cruise missile, while BrahMos is a solid-fuelled intercontinental ballistic missile.

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

Ans) d

Exp) Option d is the correct answer.

Statement 1 is incorrect: Cruise missiles are jet-propelled at subsonic speeds throughout their flights, while ballistic missiles are rocket-powered only in the initial (boost) phase of flight, after which they follow an arcing trajectory to the target.

Statement 2 is incorrect: Agni-V is a ballistic missile while The BrahMos (also designated as PJ-10) is a medium-range ramjet supersonic cruise missile that can be launched from submarine, ships, airplanes or land. The BrahMos is notably the fastest supersonic cruise missile in the world.

Source: <https://www.britannica.com/technology/strategic-missile>

<https://www.thehindu.com/news/national/india-test-fires-agni-v-ballistic-missile-having-range-of-5000-km/article66268636.ece>

<https://www.brahmos.com/content.php?id=10&sid=9>

Q.89) Consider the following statements regarding mercury pollution:

1. Gold mining activity is a source of mercury pollution in the world.
2. Coal-based thermal power plants cause mercury pollution.

3. There is no known safe level of exposure to mercury.

How many of the above statements are correct?

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

Ans) b

Exp) Option b is the correct answer.

Statement 1 is correct: Gold mining is poisoning Amazon forests with mercury. To separate the gold, miners mix liquid mercury into the sediment, which forms a coating around the gold.

Statement 2 is correct: Fly ash generated by TPPs is one of the ways mercury is released into the environment. Fly ash is usually disposed in ash ponds in the form of ash slurry, forming an aquatic ecosystem of its own. Coal-based TPPs are the major source of mercury - the ninth most toxic element found on earth – emissions into the environment. **Mercury contributed over 80 per cent of emissions released by the TPPs**, according to 2016 estimates by Delhi-based think-tank Centre for Science and Environment.

Statement 3 is incorrect: While high levels of mercury exposure can be harmful, there are established safe levels of exposure to mercury for various scenarios. **As per different reports currently, mercury vapour concentrations greater than 0.01 mg/m³ are considered unsafe.**

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2328063/>

<https://www.deccanherald.com/international/gold-mining-is-poisoning-amazon-forests-with-mercury-1075658.html>

<https://www.downtoearth.org.in/blog/pollution/presence-of-mercury-in-birds-near-thermal-power-plants-in-maharashtra-paves-way-for-modern-analysis-73097>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3096006/#:~:text=Acute%20or%20chronic%20mercury%20exposure,known%20safe%20level%20of%20exposure.>

Q.90) With reference to green hydrogen, consider the following statements:

- 1. It can be used directly as a fuel for internal combustion.
- 2. It can be blended with natural gas and used as fuel for heat or power generation.
- 3. It can be used in the hydrogen fuel cell to run vehicles.

How many of the above statements are correct?

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

Ans) c

Exp) Option c is the correct answer.

Statement 1 is correct: Both hydrogen internal combustion engines and hydrogen fuel cells can power vehicles using hydrogen, a zero-carbon fuel. **Hydrogen engines burn hydrogen in an internal combustion engine**, in just the same way gasoline is used in an engine.

Statement 2 is correct: Hydrogen produced through clean pathways can be injected into **natural gas pipelines**, and the **resulting blends can be used to generate heat and power** with lower emissions than using natural gas alone. Blend limits depend on the design and condition of current pipeline materials, of pipeline infrastructure equipment, and of applications that utilize natural gas.

Statement 3 is correct: Fuel cell electric vehicles (FCEVs) are powered by hydrogen. They are more efficient than conventional internal combustion engine vehicles and produce no harmful tailpipe emissions—they only emit water vapor and warm air. **In contrast to other electric vehicles, FCEVs produce electricity using a fuel cell powered by hydrogen**, rather than drawing electricity from only a battery.

Source: https://afdc.energy.gov/fuels/hydrogen_basics.html

[https://www.cummins.com/news/2022/01/27/hydrogen-internal-combustion-engines-and-hydrogen-fuel-](https://www.cummins.com/news/2022/01/27/hydrogen-internal-combustion-engines-and-hydrogen-fuel-cells#:~:text=Both%20hydrogen%20internal%20combustion%20engines,is%20used%20in%20an%20engine.)

[cells#:~:text=Both%20hydrogen%20internal%20combustion%20engines,is%20used%20in%20an%20engine.](https://www.energy.gov/eere/fuelcells/hyblend-opportunities-hydrogen-blending-natural-gas-pipelines)

<https://www.energy.gov/eere/fuelcells/hyblend-opportunities-hydrogen-blending-natural-gas-pipelines>

[https://afdc.energy.gov/vehicles/fuel_cell.html#:~:text=Fuel%20cell%20electric%20vehicles%20\(FCEVs,the%20early%20stages%20of%20implementation.](https://afdc.energy.gov/vehicles/fuel_cell.html#:~:text=Fuel%20cell%20electric%20vehicles%20(FCEVs,the%20early%20stages%20of%20implementation.)

Q.91) Consider the following statements with reference to India:

1. According to the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, the 'medium enterprises are those with and machinery between is crore and 25 crore.
2. All bank loans to the Micro, Small and Medium Enterprises qualify under the priority sector.

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

Ans) b

Exp) Option b is the correct answer.

Statement 1 is incorrect: As per the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, the Medium Enterprises are those for which the investments in Plant and Machinery is not more than Rs. 50 crore of and turnover not more than Rs. 250 crore.

Statement 2 is correct: All bank loans to MSMEs conforming to the definition of MSME as per Government of India qualify for classification under priority sector lending.

Source: <https://msme.gov.in/know-about-msme>

<https://www.rbi.org.in/commonman/english/Scripts/FAQs.aspx?Id=966>

<https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1909926#:~:text=Priority%20Sector%20Lending%20Guidelines%3A%20In,classification%20under%20priority%20sector%20lending.>

Q.92) With reference to Central Bank digital currencies, consider the following statements:

1. It is possible to make payments in a digital currency without using US dollar or SWIFT system.
2. A digital currency can be distributed with condition programmed into it such as a time- frame for spending it.

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

Ans) c

Exp) Option c is the correct answer.

Statement 1 is correct. It is possible to make payments in digital currencies without using US dollar or SWIFT system.

Statement 2 is correct. The digital yuan is programmable to the extent that the currency can be designed to expire, forcing users to spend it all by a specific date. It means that the digital currencies can be programmed to be spent within a predetermined time range.

Source: <https://bsfi.economictimes.indiatimes.com/news/policy/digital-currency-yuan-comes-with-an-expiry-date-spend-or-it-will-vanish/82059471#:~:text=The%20digital%20yuan%20is%20programmable,up%20by%20a%20certain%20date.>

<https://blogs.worldbank.org/allaboutfinance/expiring-money-part-i>

Q.93) In the context of finance, the term “beta” refers to:

- a) the process of simultaneous buying and selling of an asset from different platforms
- b) an investment strategy of portfolio manager to balance risk versus reward
- c) a type of systemic risk that arises where perfect hedging is not possible
- d) a numeric value that measures the fluctuations of a stock to change in the overall stock market

Ans) d

Exp) Option d is the correct answer.

1. **Beta:** A stock's expected movement in relation to overall market movements is measured by a concept called beta. A stock with a beta greater than 1 is considered to be more volatile than the broader market, while the stock with a beta less than 1 is considered to be less volatile.
2. The Capital Asset Price Model (CAPM), a model that calculates a stock's return, uses beta as its primary factor. The beta calculation can be used to assess the stock's volatility and systematic risk associated to it.

Source: <https://economictimes.indiatimes.com/definition/beta>

Q.94) Consider the following statements:

1. The Self-Help Group (SHG) programme was originally initiated by the State Bank of India by providing microcredit to the financially deprived.
2. In an SHG, all members of a group take responsibility for a loan that an individual member takes.
3. The Regional Rural Banks and Scheduled Commercial Banks support SHGs.

How many of the above statements are correct?

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

Ans) b

Exp) Option b is the correct answer.

Statement 1 is incorrect. NABARD began promoting self-help groups in 1991–1992. And it served as the actual launch pad for the "SHG movement." The Reserve Bank of India additionally permitted SHGs to open savings banks accounts in 1993. The ability to use banking services gave the movement a significant boost.

Statement 2 is correct: The Banks provide the loan to the Self Help Group as a whole and it is the collective responsibility of the SHG to repay that loan. Hence all members of a group take responsibility for a loan that an individual member takes. Further, the SHG may decide to not provide any share in further loans to the defaulter member.

Statement 3 is correct. The Financial Inclusion Fund scheme to support Scheduled Commercial Banks (SCBs) and Regional Rural Banks (RRBs) for enabling Dual Authentication option in the microATMs for SHG transactions is being launched to provide an enabling eco-system for the SHGs to seamlessly operate at Business Correspondent points with the proposed "Dual Authentication" feature. Thus, it can be said that **SCBs and RRBs support the SHGs in availing the credits** as per their needs.

Source: <https://ncwapps.nic.in/pdfReports/SHG-Maharashtra.pdf>

<https://www.nabard.org/circularpage.aspx?cid=504&id=2863>

Q.95) Consider the following statements:

Statement-I:

India's public sector health care system largely focuses on curative care with limited preventive, promotive and rehabilitative care.

Statement-II:

Under India's decentralized approach to health care delivery, the States are primarily responsible for organizing health services.

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

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

d) Statement-I is incorrect but Statement-II is correct

Ans) b

Exp) Option b is the correct answer.

Statement 1 is correct. As per the National Health Policy, 2017, India's public sector health care system focuses on improving health status through coordinated policy action in all sectors. It also **focuses on expanding preventive, promotive, curative, palliative and rehabilitative services through the public health sector which focuses on quality of these services.**

Statement 2 is correct. The **states are primarily in charge of organising health services under India's decentralised system for providing healthcare.** Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana, or PM-JAY, is the government's tax-financed National Health Protection Scheme, which enables low-income individuals to receive cashless secondary and tertiary care at private facilities.

Source: <https://main.mohfw.gov.in/sites/default/files/9147562941489753121.pdf>

<https://www.commonwealthfund.org/international-health-policy-center/countries/india>

Q.96) Consider the following statements :

Statement-I :

According to the United Nations World Water Development Report, 2022, India extracts more than a quarter of the world's groundwater withdrawal each year.

Statement-II :

India needs to extract more than a quarter of the world's groundwater each year to satisfy the drinking water and sanitation needs of almost 18% of world's population living in its territory.

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

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

Ans) c

Exp) Option c is the correct answer.

Statement 1 is correct. According to the United Nations World Water Development Report 2022, with an estimated 251 km³ annual withdrawal from an estimated 20 million wells and tube wells, India is the world's greatest groundwater user. This **accounts for more than a quarter of the total groundwater extracted internationally.**

Statement 2 is incorrect. India uses about 89% of this groundwater for irrigation. Major share of total groundwater extracted by India is utilized for irrigation purposes and not for **drinking and sanitation purposes.**

Source: <https://unesdoc.unesco.org/ark:/48223/pf0000380721/PDF/380721eng.pdf.multi>

<https://www.worldbank.org/en/country/india/brief/world-water-day-2022-how-india-is-addressing-its-water-needs>

Q.97) Consider the following statements:

1. According to the Constitution of India, the Central Government has a duty to protect States from internal disturbances.
2. The Constitution of India exempts the States from providing legal counsel to a person being held for preventive detention.
3. According to the Prevention of Terrorism Act, 2002, confession of the accused before the police cannot be used as evidence.

How many of the above statements are correct?

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

Ans) b

Exp) Option b is the correct answer.

Statement 1 is correct. Article 355 of the Indian Constitution specifically states that "It shall be the **duty of the Union to protect every State against external aggression and internal disturbance** and to ensure that the government of every State is carried on in accordance with the provisions of this Constitution."

Statement 2 is correct. According to Article 22 of Constitution of India (Protection against arrest and detention in certain cases):

(1) No person who is arrested shall be detained in custody without being informed, as soon as may be, of the grounds for such arrest nor shall he be denied the right to consult, and to be defended by, a legal practitioner of his choice

(2) Every person who is arrested and detained in custody shall be produced before the nearest magistrate within a period of twenty four hours of such arrest excluding the time necessary for the journey from the place of arrest to the court of the magistrate and no such person shall be detained in custody beyond the said period without the authority of a magistrate

(3) Nothing in clauses (1) and (2) shall apply (a) to any person who for the time being is an enemy alien; or (b) to any person who is arrested or detained under any law providing for preventive detention.

Hence, According to Clause (3) Article 22 of the Constitution of India, it is not mandatory for states to provide access to legal counsel to the person held for preventive detention.

Statement 3 is incorrect. Section 32 (1) of the Prevention Of Terrorism Act (POTA) 2002 stated that "Notwithstanding anything in the Code 12 or in the Indian Evidence Act, 1872 (1 of 1872), but subject to the provisions of this section, **a confession made by a person before a police officer not lower in rank than a Superintendent of Police shall be admissible in the trial of such person.**"

Source: <https://www.mea.gov.in/Images/pdf1/Part18.pdf>

<https://www.satp.org/satporgtp/publication/faultlines/volume16/Article%202.pdf>

M. Laxmikant Chapter 7

Q.98) Which one of the following countries has been suffering from decades of civil strife and food shortages and was in news in the recent past for its very severe famine?

- a) Angola
- b) Costa Rica
- c) Ecuador
- d) Somalia

Ans) d

Exp) Option d is the correct answer.

As a result of a **severe drought and the after effects of three decades of civil strife, Somalia is now at the top of the International Rescue Committee's Emergency Watchlist for the first time ever.** Following five consecutive failed rainy seasons, **6.5 million people are currently experiencing severe food insecurity** amid the driest conditions in 40 years. The effects of other recurring climate shocks, persistent insecurity, and ongoing instability are being worsened by drought.

Source:<https://www.rescue.org/article/crisis-somalia-catastrophic-hunger-amid-drought-and-conflict>

Q.99) Consider the following statements:

1. In Biodiversity the India, Management Committees are key to the realization of the objectives of the Nagoya Protocol.
2. The Biodiversity Management Committees have important functions in determining access and benefit sharing, including the power to levy collection fees on the access of biological resources within its jurisdiction.

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

Ans) c

Exp) Option c is the correct answer.

Statement 1 is correct: Nagoya Protocol: An international agreement called the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilisation to the Convention on Biological Diversity aims to equitably and fairly share the benefits resulting from the use of genetic resources. It entered into force on 12 October 2014.

According to the Biological Diversity Act of 2002, **every local body in the State shall establish a Biodiversity Management Committee (BMC) within its area of jurisdiction for the purpose of promoting biological diversity conservation**, sustainable use, and documentation. In other words, it can be said that, **in India, the BMCs functions as the agency for the implementation of the objectives of Nagoya Protocol.**

Statement 2 is correct: The **BD Act gives BMCs the independent authority to charge those who collect biological resources within their territorial jurisdiction** by way of collection fees. The ability of BMCs

to collect fees will allow them to develop their own financial resources that they can use to carry out the objectives of the Act.

Source:

<https://www.cbd.int/abs/>

[https://sbb.haryanaforest.gov.in/project/biodiversity-management-committee-](https://sbb.haryanaforest.gov.in/project/biodiversity-management-committee-bmc/#:~:text=The%20BMC%20may%20levy%20charges,falling%20within%20its%20territorial%20jurisdiction)

[bmc/#:~:text=The%20BMC%20may%20levy%20charges,falling%20within%20its%20territorial%20jurisdiction](https://sbb.haryanaforest.gov.in/project/biodiversity-management-committee-bmc/#:~:text=The%20BMC%20may%20levy%20charges,falling%20within%20its%20territorial%20jurisdiction)

<http://nbaindia.org/text/14/BiodiversityManagementCommittees.html>

<https://niua.in/csc/assets/pdf/key-documents/phase-2/Up-GreenC-and-BIO/Policy-paper-on-Biodiversity-Management-Committees.pdf>

Q.100) Consider the following statements in respect of election to the President of India:

1. The members nominated to either House of the Parliament or the Legislative Assemblies of States are also eligible to be included in the Electoral College.
2. Higher the number of elective Assembly seats, higher is the value of vote of each MLA of that State.
3. The value of vote of each MLA of Madhya Pradesh is greater than that of Kerala.
4. The value of vote of each MLA of Puducherry is higher than that of Arunachal Pradesh because the ratio of total population to total number of elective Puducherry is greater as compared to Arunachal Pradesh.

How many of the above statements are correct?

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

Ans) a

Exp) Option a is the correct answer.

Statement 1 is incorrect. The elected members of the Upper and Lower Houses of Parliament that is the Rajya Sabha and the Lok Sabha as well as the elected Members of the Legislative Assemblies of States and Union Territories (MLAs) comprise the electoral college for the Presidential Election in India.

Statement 2 is incorrect. The value of vote of each MLA depends on the ratio of the State's population and the number of MLAs in its legislative Assembly. By dividing the State's population by the number of MLAs in its legislative Assembly, and then further dividing the quotient achieved by 1000, one may calculate the value of each MLA's vote. Based on a calculation that takes into account each State's population in relation to the number of members in its legislative Assembly, each MLA's vote value varies from State to State. According to the Constitution (Eighty-fourth Amendment) Act of 2001, the population of the States is currently calculated using data from the 1971 Census.

Statement 3 is incorrect. The vote value of each MLA of Madhya Pradesh is less than that of the vote value of each MLA of Kerala as the ratio of total population to total elective seats in Kerala is greater relative to that in Madhya Pradesh.

Statement 4 is correct. The vote value of each MLA of Puducherry is higher than that of Arunachal Pradesh as the ratio of total population to total elective seats in Puducherry is greater relative to that in Arunachal Pradesh. **In 2022 Presidential election the vote value of each MLA from Puducherry was 16 whereas the vote value of each MLA from Arunachal Pradesh came out to be 8.**

Source: M LAXMIKANT CHAPTER 17

<https://www.dnaindia.com/india/report-presidential-elections-2022-from-up-to-sikkim-know-state-wise-vote-value-of-mlas-2969061>