

**ANSWERS WITH DETAILED EXPLANATION**

**UPSC Exam Civil Services (Preliminary) Examination (GS- I)**

**28th May 2023**

**SET - B**

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

- (a) Andhra (b) Gandhara  
(c) Kalinga (d) Magadh

**Ans:** (a)

**EXPLANATION:**

Dhanyakataka was the capital of Satavahana rulers. Presently it is part of Dharanikota archeological site in Palanadu district of Andhra. In the beginning Vaishali was Centre of Mahasanghika but after 3rd Buddhist council, they shifted their base to Amravati and Nagarjunakonda in Andhra. It is at this time many Buddhist monasteries were created at Dhanyakataka.

**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)

**EXPLANATION:**

Stupa-making tradition can be traced to Vedic period. The great teachers of Vedic times were cremated in stupa formation. In Buddhism, the stupa became a receptacle of religious and relic objects. Stupa is not a commemorative object, and pillars are commemorative objects.

**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)

**EXPLANATION:**

Korkai was the important port of early Pandyas. Poompuhar was a port of early cholas of tamilkam on the mouth of river Kaveri. Muchiri or Muziri was the most important port of the Cheri rulers.

**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)

**EXPLANATION:**

It was widespread practice during the Sangam age, whereby Tamil kings performed it to save their honour and prestige. The practice is similar to Jain penance Sallekhana.

**Q.5.** Consider the following dynasties:

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

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

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

**Ans:** (d)

**EXPLANATION:**

Hoysala empire was based in Karnataka between the 10th and 14th century AD. Gahadavala Rajput rulers ruled from Kannauj between the 11th and 12th centuries. Kakatiya were Telugu rulers of Andhra and Telangana who ruled between the 12th and 14th century AD. Yadavas of Devagiri were contemporary of Kakatiya, and they ruled in Maharashtra between 1187 to 1317 AD.

**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    |

**Ans:** (b)

**EXPLANATION:**

Devichandragupta was authored by Visakhadutta. Milinda-panha was a historical conversation of King Milinda and Buddhist monk Nagasena. It was recorded by Nagasena.

**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)

**EXPLANATION:**

It is Jainism which believes in the concept of Animate and Inanimate souls.

**Q.8.** Who among the following rulers of the 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)

**EXPLANATION:**

Devaraya I created the capital city of Vijayanagara. In 1410 AD he created a dam on Tungabhadra River and also commissioned a 24 km Long Aqueduct from Tungabhadra to capital city.

**Q.9.** Who among the following rulers of medieval Gujrat surrendered Diu to the Portuguese?

- |                                    |
|------------------------------------|
| (a) Ahmad Shah                     |
| (b) Mahmud Beghara                 |
| (c) Bahadur Shah (d) Muhammad Shah |

**Ans:** (c)

**EXPLANATION:**

During the conflict with Mughal emperor Humayun, Bahadur Shah of Gujrat Secured the help of the Portuguese in lieu of Diu being granted to them.

**Q.10.** By which one of the following acts was the Governor-General of Bengal designated as 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)

**EXPLANATION:**

The Charter Act of 1833 designated the Governor-General of Bengal as the Governor-General of India. Lord William Bentick was the first Governor General of India.

**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:** (c)

**EXPLANATION:**

Article 21 of the Constitution of India mention about the procedure established by law and that nobody should be punished, in violation of it. Due process of law is a concept not explicitly mentioned in the Constitution but interpreted by the Supreme Court in *Maneka Gandhi v Union of India*, application of law shall not be arbitrary or on irrational grounds. Maneka Gandhi's passport was impounded 'in the public interest' in 1977. The Government of India declined to provide any reasons for the same "in the interests of the general public." The Supreme Court, in *Maneka Gandhi's* case, overruled its judgement in *A. K. Gopalan v. State of Madras*, which interpreted fundamental rights as exclusive. It established a relationship between Articles 14, 19, and 21 of the Constitution (known as the 'golden triangle' or 'trinity') and held that a law depriving a person of 'personal liberty' must not only not violate Articles 14, 19 ad 21 but also held that a 'procedure' under Article 21 of the Constitution cannot be arbitrary, unfair, oppressive, or unreasonable, again overruling *A. K. Gopalan* judgement.

**Source :**

<https://www.legalserviceindia.com/legal/article-6747-doctrine-of-due-process-of-law.html>

**12.** Consider the following statements :

- I : In India, prisons are managed by State Governments with their own rules and regulations for the day-to-day administration of prisons.
- 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-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)

**EXPLANATION :**

Statement I is correct , because it reflects authentic situation. But statement II is incorrect , because the Prisons Act was enacted in 1894 which is the current law governing management and administration of prisons. It has remained in force for over 112 years including 58 years after our independence. The constitutional changes brought about by the Government of India Act of 1935 resulted in the transfer of the subject of prisons in the control of provincial governments. This also seems plausible as it was only after the Government of India Act of 1919, that the provincial administrative subjects were separated, a concept called 'dyarchy'.

**Source :**

<https://bprd.nic.in/WriteReadData/userfiles/file/5261991522-Part%20I.pdf>  
& <https://indianexpress.com/article/explained/explained-law/model-prisons-act-mha-8630225/> ;  
Statement I is correct , but statement II is incorrect .

**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)

**EXPLANATION :**

The first function of a constitution is to provide a set of basic rules that allow for minimal coordination amongst members of a society. The second function of a constitution is to specify who has the power to make decisions in a society. It decides how the government will be constituted. The third function of a constitution is to set some limits on what a government can impose on its citizens. These limits are fundamental in the sense that government may never trespass them. The fourth function of a constitution is to enable the government to fulfil the aspirations of a society and create conditions for a just society. Constitutions are not only rules and regulations controlling the powers of the government. They also give powers to the government for pursuing collective good of the society.

**Source :**

file:///C:/Users/aniksingh/Downloads/keps201%20(1).pdf

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 |

**Ans:** (b)

**EXPLANATION :**

The 42nd Amendment Act, 1976 enlarged the scope of Art. 31C to laws for implementation of any Directive Principle enumerated in Part IV of the Constitution that they cannot be questioned despite contravention of Art 14 and 19. The Amendment made Directive Principles completely supreme to Fundamental Rights and even took away the purview of reviewing any such amendment on any ground. It was struck down in *Minerva Mills Case*, 1978 on the grounds that the harmony between the fundamental rights and the Directives should not be disturbed by giving a general preference to the latter.

15. Consider the following organizations/ bodies in India :
1. The National Commission for Backward Classes
  2. The National Human Rights Commission
  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)

**EXPLANATION:**

- National Commission for Backward Classes can be referred from Art 338B of the Constitution inserted by the (102nd Amendment)
- National Human Rights Commission is a statutory body created by Protection of Human Rights Act (PHRA), 1993. It is not constitutional.
- National Law Commission is a non-statutory body constituted by a notification of the Ministry of Law & Justice, GoI, with a definite term of reference.
- National Consumer Disputes Redressal Commission (NCDRC) is a statutory quasi-judicial body set up under Consumer Protection Act, 1986.

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)

**EXPLANATION:**

- Statement 1 incorrect - Art 71(2) clearly states that “acts done in the exercise and performance of the powers and duties of the office of President, as the case may be, on or before the date of the decision of the Supreme Court shall not be invalidated by reason of that declaration.”
- Statement 2 incorrect - Art 71(4) clearly states “the election of a person as President or Vice-President shall not be called in question on the ground of the existence of any vacancy for whatever reason among the members of the electoral college electing him.”
- Statement 3 incorrect - No time limit has been prescribed in the Constitution.

**Source :**

<https://www.constitutionofindia.net/articles/article-71-matters-relating-to-or-connected-with-the-election-of-a-president-or-vice-president/> ; So, the statement 1 is incorrect. & <https://ncert.nic.in/textbook/pdf/keps204.pdf> ; So, the statement 3 is incorrect .

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:** (a)

**EXPLANATION:**

- All Money Bills are Finance Bills, all Finance Bills are not Money Bills. For example, the Finance Bill which only contains provisions related to tax proposals would be a Money Bill. However, a Bill that contains some provisions related to taxation or expenditure, but also covers other matters would be considered as a Finance Bill. So, statement 1 is incorrect.
- There are powers that only the Lok Sabha exercises. The Rajya Sabha cannot initiate, reject or amend money bills. The Council of Ministers is responsible to the Lok Sabha and not Rajya Sabha. Therefore, Rajya Sabha can criticize the government but cannot remove it. If it is a money bill, the Rajya Sabha can either approve the bill or suggest changes but cannot reject it. If it takes no action within 14 days, the bill is deemed to have been passed. Amendments to the bill, suggested by Rajya Sabha, may or may not be accepted by the Lok Sabha. So, statement 2 is correct.

Article 109 : Special procedure in respect of Money Bills.—(1)

A Money Bill shall not be introduced in the Council of States.

- Statement 3 is incorrect, President can summons for disagreement between the Lok Sabha and the Rajya Sabha against Finance Bill, but not necessary.

**Source :**

<https://ncert.nic.in/textbook.php?keps2=5-10>  
& <https://prcindia.org/theprsblog/money-bills-vs-other-bills>

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:** (c)

**EXPLANATION:**

- According to the Ministry of Environment, Forests and Climate Change (MoEFCC), conservation reserves and community reserves are protected areas of India which typically act as buffer zones between established national parks, wildlife sanctuaries and reserved and protected forests of India.
- These protected area categories were first introduced in the Wildlife (Protection) Amendment Act of 2002 – the amendment to the Wildlife Protection Act of 1972.
- The provisions of the WLPA apply to an area once it has been declared a community reserve. Section 33 of the WLPA passes the authority of the sanctuary to the chief wildlife warden. So, statement 1 is correct.
- After a forest has been made into a community reserve, people cannot hunt there. So, statement 2 is correct .
- The people of community reserves are allowed to collect non-timber forest produce and those people are not allowed to use community reserves for traditional agricultural practices such as shifting (jhum) cultivation. So, statement 3 is correct & statement 4 is incorrect.

**Source :**

<https://www.downtoearth.org.in/news/forests/community-reserves-are-they-forest-department-s-backdoor-entry-into-north-east-india-85242>

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)

**EXPLANATION:**

The Fifth Schedule( Part C) under Article 244(1) of Constitution defines “Scheduled Areas” as such areas as the President may by order declare to be Scheduled Areas after consultation with the Governor of that State. So, statement 1 will be correct.

The following factors must be present for any place to be designated as a “Scheduled Area under the Fifth Schedule” are :

- Predominance of tribal population;
- Compactness and Reasonable Size of the Area;
- The area’s economic backwardness in comparison to its neighbours;
- A functional administrative unit, such as a district, block, or taluk.

So, statement 2 will be correct.

Statement 3 false – Part A of the Fifth Schedule clearly states 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”.

So, the statement 3 will be incorrect.

**Source :**

file:///C:/Users/aniksingh/Downloads/6.pdf ;

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 by Article 335 for maintenance of efficiency of administration.

Statement-II : Article 335 of the Constitution of India defines the term ‘efficiency of administration’. 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)

**EXPLANATION:**

Statement I correct - Indra Sawhney vs Union of India or Mandal Commission Case is the famous case of 1992 which put a limit of 50% on reservations.

Statement II incorrect – The article mentions but does not define “efficiency of administration”.

**Source :**

<https://www.epw.in/journal/2021/19/special-articles/reservations-efficiency-and-making-indian.html> & <https://www.scobserver.in/journal/reservation-in-promotion-court-in-review/>;

Statement I is correct , but statement II is incorrect.

21. Consider the following statements :

- I India, despite having uranium deposits, depends on coal for most of its electricity production.  
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 is incorrect, but Statement-II is correct.

Ans: (c)

**EXPLANATION:**

According to Global Data, India is the world’s ninth largest producer of uranium with an output of 617 tonnes in 2022 up by 0.26% in 2021. India account for 1% of global production. However, coal remains the most important and abundant fossil fuel in India. It covers 55% of the country’s energy needs. It accounts for 55% of the country’s energy needs. It is cheaper than uranium. So, statement I is correct.

Uranium found in nature consists largely of two isotopes, U-235 and U-238. Power generation in nuclear reactors occurs by the “fission” or decomposition of U-235 atoms, a process that releases energy in the form of heat. U-235 is the major fissile isotope of uranium. Natural uranium contains 0.7% of the isotope U-235. The remaining 99.3% are mainly U-238 isotopes, which do not directly contribute to the fission process (but indirectly through the formation of fissile isotopes of plutonium). Isotopic separation is the physical process of enriching (“enriching”) one isotope relative to another. Most reactors are light water reactors (of two types, PWR and BWR) and require uranium enrichment of 0.7% to 3-5% U-235 in

the fuel. This is normal low enriched uranium (LEU). There is some interest in increasing enrichment levels to about 7% and even closer to 20% for certain special power reactor fuels, such as high analytical LEU (HALEU). So, statement II is incorrect.

22. Consider the following statements :

- I Marsupials are not naturally found in India.
- 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, but Statement-II is incorrect.
- (d) Statement-I is incorrect, but Statement-II is correct.

Ans: (c)

**EXPLANATION:**

Marsupials (Metatheria) are marsupials, i.e., females give birth to live, near-fetal offspring, and in most species place the offspring in an outer pouch or sac formed by flaps of skin tissue. It is a mammal in which the females bear their young alive but in an almost foetal state and, in most species, carry them within an external pocket or pouch formed by a flap of dermal tissue on the abdomen. The best-known marsupials are kangaroos (Macropus), koalas (Phascolarctos), wombats (Vombatus, Lasiorhinus), etc. of Australia and neighboring islands, and possums (Didelphis, Marmosa, etc.) of the Americas. They are not naturally found in India. So, statement I is correct.

Marsupials can thrive only in montane grasslands with no predators. So, statement II is incorrect. They have diverse habitats and can thrive in a variety of ecosystems, including forests, deserts, grasslands, and even urban areas. Some marsupials, such as kangaroos, wallabies, and wombats, are adapted to grassland habitats, but it would be incorrect to say that marsupials can only thrive in predator-free mountain grasslands. They have evolved to adapt to different ecological niches in their respective habitats.

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

- (a) The International Union for Conservation of Nature
- (b) The United Nations Environment Programme
- (c) The United Nations World Commission for Environment and Development
- (d) The Worldwide Fund for Nature

Ans: (a)

**EXPLANATION:**

The Invasive Species Specialist Group (ISSG) is a global network of scientific and policy experts on invasive species, organized under the auspices of the Species Survival Commission (SSC) of the International Union for Conservation of Nature (IUCN). The international union for conservation of nature is an international organization working in the field of nature conservation and sustainable use of nature resources. It is involved in data gathering and analyses, research, field project advocacy and education. It was founded 5 Oct. 1948 and its headquarter is in Gland, Switzerland.

**Source :**

<https://www.iucn.org/our-work/topic/invasive-alien-species>

24. Consider the following 'fauna :

- 1. Lion-tailed Macaque
- 2. Malabar Civet
- 3. Sambar Deer

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

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

Ans: (b)

**EXPLANATION:**

The lion-tailed macaque (Macaca silenus) is an Old-World monkey endemic to the Western Ghats of southern India. The hair of the lion-tailed macaque is dark brown or black . Its distinguishing feature is the silver-white mane which surrounds the head from the cheeks down to its chin, giving this monkey the German name "Beard Ape". The hairless face is dyed black. With a head and tail length of 45 to 60 cm and a weight of 3 to 10 kg, it is one of the smaller monkeys among macaques. The tail is about 25 cm long and has black tufts at the tip like a lion's tail. The caudal tuft of males is more developed than that of females. The gestation period is about 6 months. Young are brought up for one year. It takes 4 years for females and 6 years for males to reach sexual maturity. Life expectancy is about 20 years in the wild and up to 30 years in captivity. Owl monkeys ( Only in Primates ) are nocturnal. They live in higher elevations in forests and tropical environments of Central America and northern South America. Remember that lion-tailed macaque (Macaca silenus) is not nocturnal or most active animal. So, 1 is incorrect.

The Malabar civet (Viverra civettina) are generally nocturnal or most active after sunset. is listed as 'Critically Endangered' in the Red Data book of the IUCN (International Union for Conservation of Nature) and is among the 15 most threatened mammals in the world today. Southern India

( Kerala and Karnataka ) is home to all the four species of civets. Eight camera traps were placed in the selected sites, four in the Malabar and Travancore districts of Kerala, while other four in the Someshwara and Biligiriranganna Wildlife Sanctuaries (BRT) of Karnataka. Since Malabar civets are nocturnal, the chances of sighting them at night are high, therefore, I had to keep up the search even at night and this is when the search becomes dangerous. The Malabar Civet is the only large civet among these species which can grow upto 8 Kgs in weight. So, point 2 is correct. The sambar (Rusa unicorn), a large deer native to the Indian subcontinent and Southeast Asia, was listed as endangered on the IUCN Red List in 2008. Intense hunting, local rebellion, and industrial exploitation of the habitat have led to a significant decline in populations. The name "sambar" is also sometimes used to refer to the Philippine deer called the "Philippine sambar", and the Javan rusa called the "Sunda sambar". Sambar are nocturnal or crepuscular animals and rest during the day under the cover of heavy forest. Sambar prefers tropical dry forests, open scrub forests, tropical seasonal forests, subtropical mixed forests with conifers and montane grasslands, deciduous and evergreen trees, and tropical rainforests, and rarely migrates far from water sources. These deer are also found near cultivated areas such as gardens and plantations where they find food. So, 3 is correct.

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)

**EXPLANATION:**

Honeybees use a complex form of spatial referencing communication. Their "waggle dance" communicates resource direction, distance and quality to nest mates by translating celestial signals, retinal visual currents and relative prey values into intra-nest movement and noise. No obstacles were found in the bee's first dance, which was able to follow the other dancers. Social learning thus shapes signaling in honeybees, like communication in human infants, birds, and many other vertebrate species.

**Source:**

<https://www.frontiersin.org/articles/10.3389/fevo.2015.00125/full#:~:text=In%201973%2C%20the%20Austrian%20scientist,food%20sources%20with%20nest%20mates.&https://askabiologist.asu.edu/bee-dance-game/introduction.html>

26. Consider the following statements :
1. Some mushrooms have medicinal properties.
  2. Some mushrooms have psychoactive 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)

**EXPLANATION:**

- Medicinal mushrooms such as shiitake, maitake, and reishi have been shown to have antitumor and immunostimulatory properties. Men are more likely to reap health benefits simply by adding shiitake, maitake, and reishi mushrooms to their diets, which are excellent sources of B vitamins, fiber, and antioxidants. Mushrooms are a collection of non-nutritive plant compounds such as polysaccharides, indoles, polyphenols and carotenoids that have been shown to have antioxidant, anti-inflammatory and anti-cancer properties in cell and animal studies. Mushrooms are also highly prized by chefs for their ability to create a savory flavor called umami, thanks to the presence of an amino acid called glutamic acid, which is also found in meats, fish, cheeses and simmering soups. So, statement 1 is correct.
- Magic mushrooms (psychoactive fungi) that grow in the United States, Mexico, South America, and many other parts of the world contain psilocybin and psilocin, which are hallucinogens and are Class I controlled substances. Magic mushrooms can be eaten raw, cooked with food or dried, and then consumed. After ingestion, psilocybin, often the major component of mushrooms, is rapidly converted by dephosphorylation into psilocin, which has psychoactive effects similar to lysergic acid diethylamide (LSD). So, statement 2 is correct.
- Taking advantage of the insecticidal or antifeedant properties of fungi and fly agaric, a comprehensive screen was performed using the non-mycophagous *Drosophila melanogaster* as a model insect. Powdered fruiting bodies of edible and poisonous mushrooms were incorporated into *Drosophila* growth media and observed for development. So, statement 3 is correct.
- Bioluminescent fungi typically germinate in decaying wood and can digest the lignin found in plant debris. Most bioluminescent fungi belong to the genus called *Mycena*. So, statement 4 is correct.

**Source:**

Types of mushrooms - <https://www.slurrr.com/article/types-of-edible-mushrooms-in-india-1648739836862>

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: (a)

**EXPLANATION:**

Indian palm squirrel is an omnivore. Its diet is mostly based on the fruit and nuts, but it also consumes eggs, small birds, larvae and insects. Indian palm squirrel collects food and protects its stashes aggressively from other squirrels and birds. Unlike other species of squirrels, Indian palm squirrel doesn't hibernate during the winter. Indian palm squirrel is solitary creature. It produces shrill "chip chip chip" calls when it detects predators. Natural enemies of Indian palm squirrels are snakes, birds of prey and wild cats. Mating season of Indian palm squirrels takes place all year round. Indian palm squirrels are very active animals that become uncontrollably excited during the mating season. Males often fight to get opportunity to mate. Indian palm squirrels build nests in the treetops using the grass and branches. So, statement 3 is correct, but rest statements are incorrect.

**Source:**

file:///C:/Users/aniksingh/Downloads/newsletter\_April-June-2017.pdf ; So, statement 3 is correct, but rest statements are incorrect.

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)

**EXPLANATION :**

- Thermophiles are microorganisms that grow at high temperatures of 55°C or more (min. 45°C, optimum between 55-65°C, maximum 80°C). Some micro-organisms grow even at more high temperature, the optimum between 80°C and about 113°C and are called hyper-thermophiles.
- Microorganisms live everywhere in the biosphere, and some of them can survive in subzero temperatures. These microbes live in oceans and high mountains, but unfortunately, they also live in refrigerators, where they can damage food or contaminate it as pathogens. Therefore, the best way to protect food from bacterial contamination is to store it in the refrigerator, but there are certain types of bacteria that can grow in cold temperatures as well as in the refrigerator. So, statement 2 is correct.
- Microorganisms that grow optimally at a pH less than 5.55 are called acidophiles. For example, the sulfur oxidizing Sulfolobus spp. isolated from sulfur mud fields and hot springs in Yellowstone National Park are extreme acidophiles. These archaea survive at pH values of 2.5-3.5. So, statement 3 is correct.

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)

**EXPLANATION:**

Orangutans are the largest arboreal mammals and spend most of their time in trees. Their long, powerful arms and prehensile hands and feet allow them to move between branches. Sharing 96.4% of our human genes with her, these great apes are highly intelligent creatures. It has been observed using sticks to catch insects from the bark. The researchers also watched wild orangutans use sticks to remove seeds from fruits and scrape insects out of holes in trees. The name Orangutan means "man of the forest" in Malay. Orangutans live alone in the lowland forests where they live. They eat wild fruits such as lychees, mangosteens and figs and drink water from tree hollows. They make nests in trees of vegetation to sleep at night and rest during the day. So, option (b) is correct.

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: (d)

**EXPLANATION:**

Hydrofluorocarbons are used as refrigerants, aerosol propellants, foam blowing agents, solvents, and fire retardants. So, 1, 2, 3 & 4 are correct.

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:** (b)

**EXPLANATION:**

- Jhelum river Passes through wular Lake. The Jhelum River originates at Verinag in western part of Jammu and Kashmir union Territory of India. It flows North-westward from the Pir Panjal range's northern slopes through the valley of Kashmir to Srinagar's wular Lake, which regulates its flow. The Jhelum emerges from the lake and flows westward. Wular Lake is the largest freshwater Lake of India. The capital of Jammu Kashmir Srinagar is situated on the bank of Jhelum River. So, statement 1 is correct.
- The lake is fed directly by water from the seasonal Budameru and Tammileru streams and is connected to the Krishna and Godavari systems by over 68 inflowing drains and channels. It is the largest freshwater lake and is located in Andhra Pradesh. It is located between Krishna and Godavari delta and covers an area of 308 km<sup>2</sup>. So, statement 2 is incorrect.
- Kanwar lake is a residual lake, formed due to meandering of Gandak river, a tributary of Ganga, in the geological past. It is also known as Kabar Taal Lake or Kabartal Wetland is the freshwater lake of Bihar. It is located 22 Km. north-west of Begusarai town. It is also Asia's largest freshwater oxbow lake. So, statement 3 is correct.

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 Port 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)

**EXPLANATION:**

- Kamarajar Port is the first port in India which is a public company. The port is located on the Coromandel Coast about 24 Km north of Chennai port in Tamil Nadu. It is the 12th major port of India. The port was declared as a major port under the Indian Ports Act 1908 in March 1999 and incorporated as Ennore Port Limited under the Indian Port Act 1956 in October 1999. It is the only corporatized major port and is registered as a company. So, pair 1 is correct.
- The port of Mundra is located on the north shores of the Gulf of Kutch near Mundra, Kutch district, in the state of Gujarat. It is the largest private port and the largest container port in India. So, pair 2 is correct.
- Visakhapatnam is not a large container port of India. It is ranked third in terms of Cargo Volume. It is the largest port in Andhra Pradesh and a major sea port in India. It is located near the ports of Chennai and Kolkata. Jawaharlal Nehru Port (JNPT), also known as Nhava Sheva port, is the largest container port in India, located at East of Mumbai, in the state of Maharashtra. So, pair 3 is incorrect.

33. Consider the following trees :
1. Jackfruit (*Artocarpus heterophyllus*)
  2. Mahua (*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)

**EXPLANATION:**

- Mahua (*Madhuca Indica*), Commonly Known as "Mahua" is a Tropical plant found frequently in the central and northern forest of India. So, 2 is incorrect.

- Jackfruit (*Artocarpus heterophyllus*) is a tropical tree fruit native to southwest India. It belongs to the Moraceae plant family, which also includes mulberries figs and bread fruit. It is an ever-green tree which retains its leaves throughout the year. So, 1 is correct.
- Teak (*Tectona grandis*) is a large deciduous tree native to India, Myanmar, Laos and Thailand. It can be found from very dry to very moist regions. So, 3 is correct.

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: (b)

**EXPLANATION:**

- India has more arable land than China. India has 1,656,780 Sq Km (50.4% of total land compared with 10,84,461 sq Km. (11.3% of total land) of china. So, statement 1 is correct.
- The proportion of irrigated area as more in India as compared to china. India's irrigation cover is 48% of cultivated area while China's irrigated cover is 41%. So, statement 2 is correct.
- The average productivity per hectare in Indian agriculture is lower (3.7 tonnes per hectare) than China (4.7 tonnes per hectare). So, statement 3 is incorrect.

**Source :**

<https://data.worldbank.org/indicator/AG.LND.ARBL.HA?locations=IN>  
<https://www.worldbank.org/en/news/feature/2012/05/17/india-agriculture-issues-priorities>

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)

**EXPLANATION:**

Rann of Kutch is the best example of repeated falls in sea level giving rise to present day extensive marshland. The Rann of Kutch is a salt marsh in the desert in the Kutch district of Gujarat. It is a shallow part of the Arabian Sea until a geological shift closed off the connection with the sea. The region became a seasonal marshy salt desert over the years. The region has experienced multiple cycles of sea level fluctuation over time, leading to the formation of the marshland in the present day.

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)

**EXPLANATION:**

Ilmenite ( $\text{FeO.TiO}_2$ ) and rutile ( $\text{TiO}_2$ ) abundantly available in certain coastal tracts of India are rich sources of Titanium. Titanium has several uses, primarily in the manufacturing and medical industries. It is the ninth most abundant element on the Earth. It is almost always present in igneous rocks and the sediments derived from them. It occurs in the mineral's ilmenite, rutile and sphene and is present in titanates and many iron ores. Titanium is produced commercially by reducing titanium(IV) chloride with magnesium.

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)

**EXPLANATION:**

The Democratic Republic of Congo's mining production of cobalt reached its pinnacle in 2022 with a total output of almost 130,000 metric tonnes . With over 70% (three fourth ) of the world's cobalt mine production in Democratic Republic of Congo in 2022, the country is the top producer of cobalt through mining. Cobalt metal is required for the manufacture of batteries for electric motor vehicle,

Cobalt is a silver-grey, hard and lustrous metal that is only found in the Earth's crust in chemically combined form. Cobalt is therefore primarily mined as a byproduct of nickel and copper mining. From there, cobalt is produced by reductive smelting. It is primarily used in lithium-ion batteries, which are needed for electric devices such as laptops and electric cars. Since the 1960s, the world's cobalt mine production has been focused in the Democratic Republic of the Congo.

**Source :**

<https://www.statista.com/statistics/339834/mine-production-of-cobalt-in-dr-congo/>

38. Which one of the following is a part of the Congo Basin?
- |                 |             |
|-----------------|-------------|
| (a) Cameroon    | (b) Nigeria |
| (c) South Sudan | (d) Uganda  |

**Ans:** (a)

**EXPLANATION:**

Part of the Congo basin includes Cameroon. With a surface area of 3.4 million square kilometres, the Congo basin is the biggest in Africa and the second largest in the world after the Amazon basin. It is made up primarily of the Democratic Republic of the Congo, Republic of the Congo, and Central African Republic, as well as small portions of Zambia, Angola, Cameroon, Tanzania, Burundi, and Rwanda. It has a substantial hydrologic network covering it, with forests serving as the predominant type of land cover at the moment. With a surface area of over 2 million square kilometres, the tropical rainforest of the Congo basin—often referred to as the second lung of the planet—is the second-largest tropical rainforest in the world after the Amazon. The sedimentary basin of the Congo River is known as the Congo basin.

**Source:**

<http://www.appolutelydigital.com/CongoBasin/chapter1-1.html>

39. Consider the following statements :
1. Amarkantak 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)

**EXPLANATION:**

- Amarkantak is the mountain range of Madhya Pradesh that runs in a North-South direction. Vindhya, Satpura and Maikal ranges meet in the Amarkantak region. Narmada River originates from the western side of the Amarkantak plateau. So, statement 1 is incorrect.
- The Biligirirangan Hills do not constitute the easternmost part of the Satpura range. They are part of the Eastern Ghats Mountain range & are located in the southern part of Karnataka, India. So, statement 2 is incorrect.
- Southeast India's Andhra Pradesh state is home to the Seshachalam Hills, one of the Eastern Ghats' Mountain ranges. The mountains are heavily dissected with several longitudinal valleys and were formed during the Precambrian period, or earlier than 540 million years ago. They are composed of sandstone, shale, and limestone interbedded. Both the Nandyal Valley (created by the Kunderu River) and the Rayalaseema uplands (located in the west and northwest, respectively) encircle them. So, statement 3 is incorrect.

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)

**EXPLANATION:**

- The East-West corridor of Golden Quadrilateral connects Silchar (Assam) and Porbandar cities (Gujarat) in India. So, statement 1 is incorrect.
- The Association of Southeast Asian Nations' (ASEAN) connectivity ambitions are connected via the Trilateral Highway (TLH), which creates connection between India, Myanmar, and Thailand. This goal is achieved by the proposed extension of TLH to Lao PDR, Cambodia, and Viet Nam. When complete, the India-Myanmar-Thailand-Trilateral Highway will link Moreh in Manipur (India) with Mae sot in Thailand via Myanmar as part of India's "Look East Policy." So, statement 2 is incorrect.

- India's decision to skip the Belt and Road Forum (BRF) may have led to the exclusion of the Bangladesh- China- India- Myanmar (BCIM) Economic corridor from the list of projects covered by the China-led Belt and Road Initiative (BRI) umbrella. From Kunming, it goes through hubs such as Mandalay and Lashio in Myanmar. After passing through Manipur and Silchar, it will head to Kolkata before crossing Bangladesh via Sylhet and Dhaka. Branches extend to Cox's Bazar and Chittagong ports. The BCIM Economic Corridor is designed to connect Kolkata with Kunming, the capital of Yunnan Province. It envisions the creation of a thriving economic belt around cross-border transportation, energy and communications networks. So, statement 3 is incorrect.

41. Consider the following statements :

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

- Both Statement- I and Statement-II are correct, and Statement-II is the correct explanation for Statement-I.
- Both Statement-I and Statement-II are correct, and Statement-II is not the correct explanation for Statement-I.
- Statement-I is correct, but Statement-II is incorrect.
- Statement-I is incorrect, but Statement-II is correct.

Ans: (d)

#### EXPLANATION :

- At the time of choosing a potential investment, the tax considerations should also be kept in mind. As mentioned earlier, InvITs provide two different types of returns to investors – Dividend Income and Capital Gains. Each type of income has a different tax treatment :
- Tax on Dividend and Interest Income: Any dividend or interest income that you get from an InvIT is completely taxable as per your Income Tax Slab rate. This income has to be declared every year in your Income Tax Return under the head "Income from Other Sources". So, if you are in the highest Income Tax bracket, you may have to pay 30% tax on any dividends or interest that you receive from an InvIT.
- Tax on Capital Gains: Capital Gains taxation rules are applicable only if you sell your InvITs units. If you have stayed invested in InvITs for up to 3 years prior to the sale, Short Term Capital Gains (STCG) taxation rules are applicable. The STCG tax rate is 15% on profits made by the sale of InvITs units. If you hold InvITs units for over 3 years before selling them, Long Term Capital Gains (LTCG) taxation rules are applicable. The LTCG rate is 10% of long-term gains exceeding Rs. 1 lakh. So, statement I is incorrect.
- InvITs are recognized as borrowers under the 'Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002' (SARFAESI Act). The SARFAESI Act is a law that "regulates the securitization and reconstruction of financial assets, enforcement of security interests, and establishment of a central database of security interests based on property rights, as well as things incidental or connected to it." So, it is correct.

#### Source :

<https://www.etmoney.com/learn/personal-finance/all-you-need-to-know-about-infrastructure-investment-trusts-invits/> ; So, statement I is incorrect.  
& file:///C:/Users/aniksingh/Downloads/showfile.pdf ; So, statement II is correct.

42. Consider the following statements :

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

- Both Statement- I and Statement-II are correct, and Statement-II is the correct explanation for Statement-I.
- Both Statement-I and Statement-II are correct, and Statement-II is not the correct explanation for Statement-I.
- Statement-I is correct, but Statement-II is incorrect.
- Statement-I is incorrect, but Statement-II is correct.

Ans: (a)

#### EXPLANATION:

- During the pandemic, central banks in both advanced and emerging market economies took unprecedented measures to ease financial conditions and support the economic recovery, including interest-rate cuts and asset purchases. As central banks across the world simultaneously hike interest rates in response to inflation, the world may be edging toward a global recession in 2023 and a string of financial crises in emerging market and developing economies that would do them lasting harm, according to a comprehensive new study by the World Bank. So, statement I is correct.
- Central banks use monetary policy to manage economic fluctuations and achieve price stability, which means that inflation is low and stable. Central banks in many advanced economies set explicit inflation targets. Many developing countries also are moving to inflation targeting. Central banks conduct monetary policy by adjusting the supply of money, usually through buying or selling securities in the open market. Open market operations affect short-term interest rates, which in turn influence longer-term rates and economic activity. When central banks lower interest rates, monetary policy is easing. When they raise interest rates, monetary policy is tightening.

After the global financial crisis that started in 2007, central banks in advanced economies eased monetary policy by reducing interest rates until short-term rates came close to zero, limiting options for additional cuts. Some central banks used unconventional monetary policies, buying long-term bonds to further lower long-term rates. Some even took short-term rates below zero. In response to the COVID-19 pandemic, central banks took actions to ease monetary policy, provide liquidity to markets, and maintain the flow of credit. To mitigate stress in currency and bond markets, many emerging market central banks used foreign exchange interventions, and for the first time, asset purchase programs. More recently, in response to rapidly growing inflation, central banks around the world have tightened monetary policy by increasing interest rates. So, statement II is correct, and it provides a certain reason for the interest rate hikes mentioned in Statement-I.

**Source:**

<https://www.imf.org/en/Blogs/Articles/2022/08/10/central-banks-hike-interest-rates-in-sync-to-tame-inflation-pressures> ; So, statement I is correct & <https://www.imf.org/en/About/Factsheets/Sheets/2023/monetary-policy-and-central-banking> ; So, statement II is correct, and it provides a certain reason for the interest rate hikes mentioned in Statement-I.

43. Consider the following statements :

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

**EXPLANATION:**

Carbon markets, for years short of puff, have at last become one of the most widespread tools in the fight against climate change. So, statement I is correct.

In short, a carbon market is a trading system for buying and selling carbon credits. Companies or individuals can use the carbon market to offset their greenhouse gas emissions by purchasing carbon credits from companies that reduce or reduce their greenhouse gas emissions. A tradable carbon credit is equivalent to one tonne of carbon dioxide, or the equivalent amount of other greenhouse gases reduced, sequestered, or avoided. When credits are used to reduce, recover or avoid emissions, the credits are offset and non-tradable.

There are basically two types of carbon markets.

- Compliance and autonomy. The compliance market is driven by national, regional and international guidelines and regulatory requirements.
- Voluntary carbon markets (national and international) refer to the issuance, purchase and sale of carbon credits on a voluntary basis.
- Current supply of voluntary carbon credits comes primarily from private entities developing carbon projects or from governments developing programs that are certified to carbon standards and reduce and/or avoid emissions. It has been.
- Demand comes from individuals looking to offset their carbon footprint, companies with corporate sustainability goals, and other players looking to trade credit for a higher price to make a profit. So, statement II is correct, but it is not the correct explanation for Statement-I.

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 Nonbanking Financial Institutions

**Ans:** (a)

**EXPLANATION:**

Sterilization is a monetary action used by central banks in order to stem the negative effects emerging from capital inflows or outflows from a country's economy. Classical sterilization involves central banks conducting buy and sell operations in open markets. Usually, central banks modify classical sterilization by including fiscal policy measures in order to overcome problems like inflation. So, option (a) is correct.

**Source:**

<https://www.investopedia.com/terms/s/sterilization.asp> ; So, option (a) is correct.

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)

**EXPLANATION:**

- Capital markets are financial markets that bring buyers and sellers together to trade stocks, bonds, currencies, and other financial assets. It includes the stock market and the bond market. They help people with ideas become entrepreneurs and help small businesses grow into big companies.
- The money market is a financial market wherein short-term assets and open-ended funds are traded between institutions and traders. The market offers very high liquidity as the assets can easily convert into cash. Thus, it helps businesses and the government in meeting their working capital requirements. These are very short-term in nature. Tenure ranges from overnight to a month, while the securities can be directly transferred without credit risk. Popular investment instruments include Call Money, Treasury Bills, Commercial Papers (CPs), Certificate of Deposit (CDs), Repos. So, 1 & 4 are correctly matched, but 2 & 3 are incorrectly matched.

**Source:**

<https://www.wallstreetmojo.com/capital-market/>  
 & <https://www.wallstreetmojo.com/money-market/>  
 So, 1 & 4 are correctly matched, but 2 & 3 are incorrectly matched.

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

- 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
- Many marginal farmers in an area organize themselves into groups and synchronize and harmonize selected agricultural operations
- 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
- 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)

**EXPLANATION:**

This study pilots the collective action model "Small Farmers Large Field (SFLF)" to overcome the disadvantages faced by millions of small and marginal farmers due to diseconomies of scale and lack of bargaining power in the supply chain. This model is participatory and flexible and allows small farmers to benefit from achieving economies of scale by organizing themselves into groups and synchronizing and harmonizing selected operations. It was piloted in two villages of Odisha, an eastern Indian state, with 112 farmers (35 females and 77 males). These farmers organized themselves into groups and synchronized their operations such as nursery bed management, transplanting, and harvesting collectively to achieve economies of scale. The SFLF farmers purchased inputs (seed and fertilizer) and sold paddy as a group to increase their bargaining power in price negotiations. So, option (b) is correct.

**Source :**

<https://cgspace.cgiar.org/handle/10568/116720> ; So, option (b) is correct.

47. Consider the following statements :

- The Government of India provides Minimum Support Price for Niger ( *Guizotia abyssinica*) seeds.
- Niger is cultivated as a Kharif crop.
- 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)

**EXPLANATION:**

- One of the 14 kharif crops for which the Centre releases a minimum support price (MSP) every year is an unlikely plant called Niger or Ramtil (*Guizotia abyssinica*). This lesser-known oilseed commands one of the highest MSPs, fixed on the basis of the cost of production and market demand.
- The primary reason such a sparsely grown crop is part of the exclusive MSP list is because niger seed has traditionally "been the lifeline of tribal agriculture and economy in several states across India," the 2013 AICRP ( All India Coordinated Research Project on Sesame and Niger, Jabalpur ) report stated.
- The tribal population uses niger seed oil for cooking, the press cake posts oil-extraction as livestock feed, and also consume the seeds as a condiment. Niger seed oil has medicinal properties, which is the reason for its commercial demand by the cosmetics, perfumeries and other allied industries. So, all statements are correct.

**Source :**

<https://www.downtoearth.org.in/news/agriculture/illusive-oilseed-india-s-niger-seed-cultivation-is-declining-here-is-why-84380> ; So, all statements are correct .

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)

**EXPLANATION:**

The assets that cannot be touched are known as intangible assets. They are non-physical in nature and can be used. The intangible assets are difficult to value, but companies should calculate the fair value of these kinds of assets. The intangible assets are created or acquired by the companies. Intangible assets self-created by the companies would not be recorded in the balance sheet and have no book value. The main types of intangible assets are Goodwill, Brand Equity, Intellectual Properties (Trade Secrets, Patents, Trademark and Copyrights), licensing & Rights, Customer lists, and Research & Development ( R& D ). So, 1, 3 & 4 are correct, but 2 is incorrect.

**Source :**

<https://www.wallstreetmojo.com/intangible-assets-list/> ; So, 1, 3 & 4 are correct, but 2 is incorrect.

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)

**EXPLANATION:**

The 15th Finance Commission used the following criteria while determining the share of states: (i) 45% for the income distance, (ii) 15% for the population in 2011, (iii) 15% for the area, (iv) 10% for forest and ecology, (v) 12.5% for demographic performance, and (vi) 2.5% for tax effort. For 2020-21, the Commission has recommended a total devolution of Rs 8,55,176 crore to the states, which is 41% of the divisible pool of taxes. This is 1% lower than the percentage recommended by the 14th Finance Commission. So, 1, 2 & 5 are correct, but 3 & 4 are incorrect.

**Source :**

<https://pib.gov.in/PressReleasePage.aspx?PRID=1693868> ; So, 1, 2 & 5 are correct, but 3 & 4 are incorrect.

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)

**EXPLANATION:**

Achieving the SDGs - a commitment to eradicate poverty and achieve sustainable development by 2030 worldwide - requires innovative financing solutions. The S3i - "Sustainable Investments in Infrastructure and Innovation" initiative was established in 2015 to leverage UNOPS' mandate and core strengths in infrastructure, procurement and project management to channel public and private financing into large-scale infrastructure projects in regions that have struggled to attract capital. Climate-resilient and sustainable infrastructure development is cross-cutting multiple sectors that are identified as key drivers to sustainable development, and UNOPS' S3i is prioritizing the following: Renewable energy, Affordable housing & Health infrastructure. It does not focus on mass rapid transport infrastructure. So, option (c) is correct.

**Source :**

<https://www.unops.org/about/governance/management-reforms> ; So, option (c) is correct.

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

- Home Guards are raised under the Home Guards Act and Rules of the Central Government.
- The role of the Home Guards is to serve as an auxiliary force to the police in maintenance of internal security.
- 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)

**EXPLANATION:**

The Home Guard is India's first volunteer force formed in December 1946 to assist the police in suppressing riots and community disturbances. Subsequently, the concept of vigilantes was adopted by several states. After China's invasion in 1962, the center recommended that states and federal territories consolidate their existing volunteer organizations to create a unified volunteer force called the "Home Guard." The home guard's role is to maintain the security situation in the country as an auxiliary force of the police, assist the community in all kinds of emergencies such as air raids, fires, hurricanes, earthquakes, epidemics, etc. and assist in disasters. . It maintains the provision of essential services, promotes cohesion in the community, assists public administrations in protecting vulnerable populations, participates in socio-economic and welfare activities, and carries out civil defense tasks. There are two types of home guards: rural and urban. In the Borderlands, the Border Wing Home Guards (BWHG) provide his Bns. It was established as an auxiliary unit of the Border Patrol. The organization extends to all states and union territories except Kerala.

15 battalions of the Border Wing Home Guard (BWHG) were formed in the border states. One battalion each in the states of Punjab (6 billion), Rajasthan (4 billion), Gujarat (2 billion) and Meghalaya, Tripura and West Bengal act as auxiliary border guards and Deterring intrusions in the area and veterans/vice president and front-line security. Communication in vulnerable areas during external attacks. Home Guards are established under the Home Guard Act and State/Territory Regulations.

The Home Office develops policies regarding the role, education, training, equipment, facilities and other important matters of Home Guard Organizations. The cost of raising, training, and equipping home guards is typically split between the federal government and state governments in the ratio of 25% by the federal government and 75% by the state government on a reimbursement basis. Except for Assam, the North-Eastern States share resources 50:50 between the Centre and the States. So, statement 2 & 3 are correct, but statement 1 is incorrect.

**Source :**

<https://dgfscdhg.gov.in/about-homeguard> ; Statement 2 & 3 are correct, but statement 1 is incorrect.

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

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

How many of the pairs are correctly matched?

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

Ans: (b)

**EXPLANATION:**

- No 1 is correctly matched, corresponds to Section 6 of the Act.
- No 2 is incorrectly matched, corresponds to section 7 of Official Secrets Act, 1923
- No 3 is correctly matched, corresponds to Section 25 of the Act.

**Source :**

[https://www.courtktuchehry.com/Judgement/Search/AdvancedV2?s\\_acts=Official%20Secrets%20Act,%201923&section\\_art=section&s\\_article\\_val=6\(1\);](https://www.courtktuchehry.com/Judgement/Search/AdvancedV2?s_acts=Official%20Secrets%20Act,%201923&section_art=section&s_article_val=6(1);) Pair 1 is correct.  
; file:///C:/Users/aniksingh/Downloads/A1923-19%20(1).pdf; Pair 2 is incorrect.  
& <https://www.hindustantimes.com/india-news/bill-for-stricter-arms-act-clears-rajya-sabha-test/story-Fz7IEAYJ2CZyUc5lbi2oHI.html>; Pair 3 is correct.

Q. 53. Consider the following pairs :

- |                                 |                                    |
|---------------------------------|------------------------------------|
| Regions often mentioned in news | Reason for being in news           |
| 1. North Kivu and Ituri :       | War between Armenia and Azerbaijan |
| 2. Nagomo-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)

**EXPLANATION:**

- 1 Incorrectly Matched  
North Kivu and Ituri is in Democratic Republic of Congo and the region has been in news due to the state of emergency imposed since April 2022 owing to the clashes between jihadist forces - ADF ( Allied Democratic Forces ), an armed group of Ugandan origin and the DRC's Army . More than 2500 civilian deaths have been reported from the region last year.
- 2 Incorrectly Matched  
Nagorno- Nagorno-Karabakh is a disputed territory, internationally recognized as part of Azerbaijan, but most of it is governed by the unrecognized Republic of Artsakh (also known as the Nagorno-Karabakh Republic (NKR) since the first Nagorno-Karabakh War. Since the end of the war in 1994, representatives of the governments of Armenia and Azerbaijan have been holding peace talks mediated by the OSCE Minsk Group on the region's disputed status. (Refer Wikipedia)
3. Incorrectly Matched  
Russia invaded Ukraine and on 30 September 2022, unilaterally declared its annexation of areas in and around four Ukrainian oblasts – Donetsk, Kherson, Luhansk, and Zaporizhzhia.

**Source :**

<https://www.unhcr.org/emergencies/dr-congo-emergency> ; Pair 1 is incorrect.  
<https://www.cfr.org/global-conflict-tracker/conflict/nagorno-karabakh-conflict> ; Pair 2 is incorrect.  
 & <https://crisis24.garda.com/alerts/2023/05/ukraine-military-operations-continue-in-southern-and-eastern-regions-as-of-may-25-update-221> ; Pair 3 is incorrect.

54. Consider the following statements :
- I Israel has established diplomatic relations with some Arab States.
  - 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-I.
  - (c) Statement-I is correct, but Statement-II is incorrect.
  - (d) Statement-I is incorrect, but Statement-II is correct.

Ans: (c)

**EXPLANATION:**

- Statement I is correct- Israel has relations with Egypt and Jordan
- Statement II is incorrect – The initiative is a brainchild of Saudi Arabia but has not been signed by Israel. The fact that the Palestine-Israel dispute still continues is a testimony to the same.

**Source:**

<https://www.mei.edu/publications/arab-peace-initiative-returns-will-it-supplant-abraham-accords> ; Statement-I is correct, but Statement-II is incorrect.

- 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)

**EXPLANATION:**

- Pair 1 is correctly matched: Major Dhyan Chand 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 . "The objective of the award is to recognize the spectacular and most outstanding performance in the field of sports by a sportsperson over a period of four years immediately preceding the year during which the award is to be given at international level.
- 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. 'Arjuna Award for outstanding performance in Sports and Games' is given for good performance over a period of the previous four years and for showing qualities of leadership, sportsmanship and a sense of discipline.
- Pair 3 is correctly matched: 'Dronacharya Award' for outstanding coaches in Sports and Games' is given to coaches for doing outstanding and meritorious work on a consistent basis and for enabling sportspersons to excel in International events.

- Pair 4 is incorrectly matched: 'Rashtriya Khel Protsahan Puruskar' is given to corporate entities (both in private and public sector), Sports Control Boards, NGOs, including sports bodies at the State and National level, who have played a visible role in the area of sports promotion and development.

**Source:**

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1875896>

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)

**EXPLANATION:**

- 44th FIDE Chess Olympiad 2022 was held at the Four Points by Sheraton Mahabalipuram Resort and Convention Centre 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.
- Statement 2 is correct: The official mascot was named 'Thambi', 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: Team Prizes
- 1st place in the Open section: Hamilton-Russell Cup
- 1st place in the Women's section: Vera Menchik Cup
- 1st place in combined classification: Nona Gaprindashvili Trophy

**Source:**

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

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)

**Explanation:**

- All are Incorrectly matched.
- Donbas is in Ukraine and has been in news due to Ukrainian war with Russia.
- Kachin is Northernmost State of Myanmar, close to China. Myanmar has been in turmoil since the army takeover in 2021 which triggered widespread popular opposition. The protests have been brutally suppressed. In 2022, Air strikes by Myanmar's military killed around 80 people attending an anniversary celebration of the Kachin ethnic minority's main political organization - Kachin Independence Organization. The Kachin are one of the stronger ethnic rebel groups having alliances with the armed pro-democratic militia forces formed in 2021 in central Myanmar to fight army rule. The anniversary of the founding of the Kachin Independence Organization, was held at a base also used for military training by the Kachin Independence Army, the KIO's armed wing. It is located near Hpakan township which is the center of the world's biggest and most lucrative jade mining industry, from which both the government and the rebels derive revenue.
- Tigray is in Ethiopia and has been in news due to armed conflict between Ethiopia Government and the armed militia Tigray People's Liberation Front (TPLF).

**Source:**

<https://www.bbc.com/news/world-europe-60938544> : Pair 1 is incorrect.  
<https://www.amnesty.org/en/latest/news/2022/10/myanmar-air-strikes-kachin-state/> :  
 Pair 2 is incorrect.  
 & <https://www.cfr.org/global-conflict-tracker/conflict/conflict-ethiopia> : Pair 3 is incorrect.

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?
- Discovery of rich deposits of rare earth elements
  - Establishment of Chinese military bases
  - Southward expansion of Sahara Desert
  - Successful coups

Ans: (d)

**EXPLANATION:**

The US Council for Foreign Relations says, “coups are back in West Africa”, while the Wall Street Journal warns that “coups in Africa are at their “highest level since end of colonialism”. For its part, the Mail & Guardian carried an impassioned plea warning that “coups are always a bad idea, even the popular ones”. Military coups happened in Chad, Mali, Sudan and Guinea in 2021.

**Source:**

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

59. Consider the following heavy industries:
- Fertilizer plants
  - Oil refineries
  - Steel plants

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

- Only one
- Only two
- All three
- None

Ans: (c)

**EXPLANATION:**

The National Green Hydrogen Mission was approved by the Union Cabinet on 4 January 2022. Green Hydrogen, produced using renewable energy, has the potential to play a key role in such low-carbon and self-reliant economic pathways. Green Hydrogen can enable utilization of domestically abundant renewable energy resources across regions, seasons, and sectors, feeding multiple usage streams, either as a fuel or as an industrial feedstock. It can directly replace fossil fuel derived feedstocks in petroleum refining, fertilizer production, steel manufacturing etc.

**Source:**

[https://mnre.gov.in/img/documents/uploads/file\\_f-1673581748609.pdf](https://mnre.gov.in/img/documents/uploads/file_f-1673581748609.pdf)

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

**EXPLANATION:**

- 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.

**Source :**

<https://www.g20.org/en/about-g20/#:-:text=The%20G20%20was%20founded%20in,global%20economic%20and%20financial%20issues.>

- Statement 2 is correct. 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.google.com/search?q=Digital+public+infrastructure+is+one+of+India%27s+G-20+priorities.&rlz=1C1CHBF\\_enIN1007IN1007&oq=Digital+public+infrastructure+is+one+of+India%27s+G-20+priorities.+&aqs=chrome..69l57.1386j0j15&sourceid=chrome&ie=UTF-8](https://www.google.com/search?q=Digital+public+infrastructure+is+one+of+India%27s+G-20+priorities.&rlz=1C1CHBF_enIN1007IN1007&oq=Digital+public+infrastructure+is+one+of+India%27s+G-20+priorities.+&aqs=chrome..69l57.1386j0j15&sourceid=chrome&ie=UTF-8)

- Q.61. With the reference to Indian History, Alexander Rea, A. H. Longhurst, Robert Sewell, James Burgess and Walter Elliot were associated with
- Archeological Excavations.
  - establishment of English press in Eastern India.
  - establishment of churches in princely states.
  - Construction of railways in colonial India.

Ans: (a)

**EXPLANATION:**

All of them were tasked with archeological Excavations.

**Q.62.** Consider the following pairs:

<b>Site</b>	<b>Well known for</b>
1. Besnagar	Shaivite cave shrine
2. Bhaja	Buddhist cave shrine
3. Sittanavasal	Jain cave shrine

*How many of the above pairs are correctly matched?*

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

Ans: (b)

**EXPLANATION:**

Besnagar is a Vaishnavite shrine dedicated to lord Vishnu, but rest are correctly matched.

**Q.63.** Consider the following statements:

- I 7th of August is declared as national handloom day.  
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 I and Statement II are correct, and Statement II is the correct explanation of 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: (a)

**EXPLANATION:**

The Union Government had declared 7th of August as the National Handloom Day in July 2015 with the objective of generating awareness about the importance of the handloom industry to the socio-economic development of the country. August 7 was chosen as the National Handloom Day to commemorate the Swadeshi Movement which was launched on this day in 1905 in Calcutta Town Hall to protest against the partition of Bengal by the British Government. The movement had aimed at reviving domestic products and production processes.

**64.** Consider the following statements in respect of the National Flag of India according to the Flag Code of India, 2002:

- I One of the standard sizes of the National Flag of India is 600 mm x 400 mm .  
II The ratio of the length to the height (width) of the Flag shall be 3 : 2.

*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)

**EXPLANATION:**

Statement I is incorrect as 600mm X 400mm is not one of the standard sizes mentioned. But the standard length and breadth ratio in the National Flag is 3:2. So, the statement II is correct .

**Source :**

Simply refer [https://www.mha.gov.in/sites/default/files/flagcodeofindia\\_070214.pdf](https://www.mha.gov.in/sites/default/files/flagcodeofindia_070214.pdf)

**65.** Consider the following statements in respect of the Constitution Day :

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

**EXPLANATION:**

Constitution Day also known as ‘Samvidhan Divas’, is celebrated in our country on 26th November every year to commemorate the adoption of the Constitution of India. On 26th November 1949, the Constituent Assembly of India adopted the Constitution of India, which came into effect from 26th January 1950. So, the first statement will be correct.

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. So, the second statement will be incorrect.

**Source :**

<https://www.mygov.in/campaigns/constitution-day/#:~:text=Constitution%20Day%20also%20known%20as,effect%20from%2026th%20January%201950.> ; Statement I is correct.  
& <https://loksabha.nic.in/constituent/facts.html> ; Statement II is incorrect.

66. Consider the following statements :

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

**EXPLANATION:**

- In 2021, Switzerland exported \$86.7 billion worth of gold, making it the world's largest gold exporter. In the same year, gold became Switzerland's most exported product. India (\$29.3 billion), China (\$16 billion), the United States (\$8.13 billion), Germany (\$5.8 billion) and Hong Kong (\$4.67 billion) are the main destinations for Swiss gold exports. The fastest growing gold export markets in 2020-2021 of Switzerland between were India (\$19.3 billion), China (\$14.3 billion) and Hong Kong. So, statement I is correct.
- Switzerland has the seventh-largest reserves of gold in the world. Its reserves of 1,040.0 tons account for 6.3% of its foreign reserves. So, statement II is incorrect.

**Source :**

<https://oec.world/en/profile/bilateral-product/gold/reporter/che> ; So, statement I is correct.  
& <https://www.tomorrowmakers.com/gold/top-10-countries-largest-gold-reserves-article> ; So, statement II is incorrect.

67. Consider the following statements :

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

**EXPLANATION:**

- President of the European Commission, Ursula von der Leyen, and Prime Minister of India, Narendra Modi, agreed to launch the EU-India Trade and Technology Council at their meeting in New. This strategic coordination mechanism will allow both partners to tackle challenges at the nexus of trade, trusted technology and security, and thus deepen cooperation in these fields between the EU and India. So, statement I is correct.
- The EU-US Trade and Technology Council serves as a forum for the United States and European Union to coordinate approaches to key global trade, economic, and technology issues and to deepen transatlantic trade and economic relations based on these shared values. It was established during the EU-US Summit on 15 June 2021 in Brussels. So, statement II is incorrect.

**Source :**

[https://ec.europa.eu/commission/presscorner/detail/en/ip\\_22\\_2643](https://ec.europa.eu/commission/presscorner/detail/en/ip_22_2643) ; So, statement I is correct.  
& [https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/stronger-europe-world/eu-us-trade-and-technology-council\\_en](https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/stronger-europe-world/eu-us-trade-and-technology-council_en) ; So, statement II is incorrect.

68. Consider the following statements :
- I India accounts for 3·2% of global export of goods.
  - 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-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)

**EXPLANATION:**

- As per the WTO data released in April 2019, for the year 2018, India's share in global exports for merchandise was 1.7 % and in global imports was 2.6 %. For the year 2018 for service sector, India's share in global exports was 3.5 % and imports was 3.2 %. So, statement I is incorrect.
- The PLI scheme for Automobile and Auto Component Industry has been a huge success in terms of the applications received from local as well as globally headquartered groups engaged in/ proposing to manufacture Advanced Automotive Technology vehicles/ products. Apart from Indian business groups, approved applicants include groups from countries such as Japan, Germany, USA, UK, Republic of Korea, Ireland, France, Belgium, Netherlands and Italy. The overwhelming response shows that Industry has reposed its faith in India's stellar progress as a world class manufacturing destination which resonates strongly with Hon'ble Prime Minister's clarion call of Atma Nirbhar Bharat - a self-reliant India. So, statement II is correct.

**Source:**

<https://pib.gov.in/PressReleasePage.aspx?PRID=1593704> ; So, statement I is incorrect.  
& file:///C:/Users/aniksingh/Downloads/PRESS%20RELEASE%20ENGLISH%2015%2003%202022.pdf ; So, statement II is correct.

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)

**EXPLANATION:**

The Stability and Growth Pact (SGP) is a binding diplomatic agreement among European Union (EU) member states. Economic policies and activities are coordinated cohesively to safeguard the stability of the economic and monetary union. The Stability and Growth Pact (SGP) is a set of fiscal rules designed to prevent countries in the EU from spending beyond their means. A state's budget deficit cannot exceed 3% of GDP and national debt cannot surpass 60% of GDP. Failure to abide by the rules can lead to a maximum fine of 0.5% of GDP. The SGP is criticized for its strict fiscal rules, lack of compliance, and perceived favoritism toward certain nations. So, statement 1 is correct, but 2 & 3 are incorrect.

**Source:**

file:///C:/Users/aniksingh/Downloads/G30\_CriticalMissionEuropeanStabilityGrowthPact.pdf ;  
So, statement 1 is correct, but 2 & 3 are incorrect.

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)

**EXPLANATION:**

The Global Compact for Safe, Orderly and Regular Migration (GCM) is an intergovernmental negotiated agreement, prepared under the auspices of the United Nations, that describes itself as covering “all dimensions of international migration in a holistic and comprehensive manner”. On 10 December 2018, the document was approved by 164 nations during the Intergovernmental Conference to Adopt the Global Compact for Safe, Orderly and Regular Migration. It has not been approved by all the member countries and hence Statement 1 is incorrect.

It is non-binding and considers international migration (not internal migration). Therefore, Statements 2 and 3 are also incorrect.

**Source :**

<https://odi.org/en/insights/163-states-just-approved-the-global-compact-for-migration-now-what/> ; All statements are incorrect.

71. Consider the following countries :

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

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

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

Ans: (a)

**EXPLANATION:**

Ukraine, located in eastern Europe. The capital is Kyiv, located on the Dnieper River in north-central Ukraine. With the dissolution of the U.S.S.R. in December 1991, Ukraine gained full independence. 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 far southeast, Ukraine is separated from Russia by the Kerch Strait, which connects the Sea of Azov to the Black Sea. So, option (a) is the correct .

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)

**EXPLANATION:**

Water vapor, carbon dioxide, methane, and other trace gases in the Earth's atmosphere absorb the longer wavelengths of infrared radiation emitted by the Earth's surface. These gases emit infrared radiation in all directions, both outward into space and downward towards Earth. This process creates her second source of radiation (visible radiation from the sun and infrared radiation from the atmosphere) to heat the surface, making the planet warmer than it would otherwise be. This process is known as the natural greenhouse effect. So, option (c) is correct.

73. Consider the following statements :

- The soil in tropical rain forests is rich in nutrients.
- 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?*

- Both Statement- I and Statement-II are correct, and Statement-II is the correct explanation for Statement-I.
- Both Statement-I and Statement-II are correct, and Statement-II is not the correct explanation for Statement-I.
- Statement-I is correct, but Statement-II is incorrect.
- Statement-I is incorrect, but Statement-II is correct.

Ans: (d)

**EXPLANATION:**

- The soils of many tropical rainforests are very poor and barren. Millions of years of weathering have eroded most of the nutrients from the soil. Despite the amount of vegetation in the rainforest, the soil contains less organic matter than that of temperate forests, because the warm humid conditions encourage faster decay and recycling of nutrients back into living forest. So, statement I is incorrect.
- The high temperature and humidity of tropical rainforests cause dead organic matter in the soil to decompose faster than in other climates, releasing and losing its nutrients more quickly. The high volume of rain in tropical rainforests washes nutrients out of the soil more quickly than in other climates. So, statement II is correct.



74. Consider the following statements :

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

**EXPLANATION:**

The temperature contrast between continents and oceans is greater during summer than in winter. It is the result of more heat and stronger sea breeze in the summer than in winter. So, statement I is correct.

The specific heat of water is greater than that of the surface of the earth. Water has a much higher heat capacity, or specific heat, than sand, soil, and other materials, so a given amount of solar radiation (insolation) will cause the temperature of the water to rise, lower than the ground temperature. So, statement II is correct , but it is not the correct explanation for Statement-I.

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)

**EXPLANATION:**

- P-waves are the first to leave the earthquake and move more quickly. They are also referred to as primary waves. They are longitudinal waves, much like sound waves, where the particles travel in the direction of the wave's propagation. They travel faster than any other waves, on average, at 8 km per second. They are able to move through all types of mediums, including solids, liquids, and gases. Secondary waves, or S-waves, move in a transverse direction similar to light waves. The direction of the waves and the motion of the particles are at an right angle. They move at a 4 km/s average speed. So, statement 1 is correct.
- P-waves vibrate perpendicular to the wave's direction. In the propagation direction, this puts pressure on the material. Because of the resulting density discrepancies, the material stretches and contracts as a result. S-wave vibrations move in a direction that is perpendicular to the vertical plane of the wave. As a result, they leave behind crests and troughs in the material they move through. The most harmful waves are thought to be those at the surface. So, statement 2 is correct.

76. With reference to coal-based thermal power plants in India, consider the 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)

**EXPLANATION:**

- Many coastal areas coal-based thermal power plants in India uses sea water for cooling purposes. So , statement 1 is incorrect.
- Previous WRI research found that 40 percent of India's thermal power plants are in water-scarce areas. Between 2013-2016, water shortages caused shutdowns in 14 of India's 20 largest thermal utilities, costing the companies \$1.4 billion. In 2016 alone, the country lost about 14 terrawatt-hours of potential thermal power generation, equal to the annual electricity demand of Sri Lanka. So, statement 2 is incorrect.
- There are both public and private sector owned coal based thermal power plants in India. Adani Power Limited is the largest private thermal power producer in India with an installed capacity of 13,650 MW. So, statement 3 is incorrect.

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 packing material residues into
- (c) Producing biodegradable plastics
- (d) Producing biochar from thermo chemical conversion of biomass

Ans: (a)

**EXPLANATION:**

Mosquitoes pick up viruses by biting infected people. When they bite again, they can transmit the virus to the next person. This is how mosquito-borne diseases spread.

- Only female mosquitoes bite. They need a blood meal to produce eggs.
- Male mosquitoes do not bite. They feed on nectar from flowers.
- Since only female mosquitoes bite humans, only female mosquitoes can transmit viruses/plasmodium.

Mosquitoes do not naturally carry viruses – they can only get them from infected people.

Wolbachia are extremely common bacteria that occur naturally in 50 per cent of insect species, including some mosquitoes, fruit flies, moths, dragonflies and butterflies. Wolbachia are safe for humans and the environment. Independent risk analyses indicate that the release of Wolbachia-infected mosquitoes poses negligible risk to humans and the environment. Wolbachia bacteria are not found in *Ae. aegypti* mosquitoes.

Scientists introduced Wolbachia into *Ae. aegypti* mosquito eggs. When male *Ae. aegypti* mosquitoes with Wolbachia mate with wild female mosquitoes that do not have Wolbachia, the eggs will not hatch. Male mosquitoes with Wolbachia are released regularly into an area by mosquito control professionals. Male mosquitoes with Wolbachia mate with wild female mosquitoes. Because the eggs don't hatch, the number of *Ae. aegypti* mosquitoes decreases. This means that when *Aedes aegypti* mosquitoes carry natural Wolbachia bacteria, the transmission of viruses like dengue, Zika, chikungunya and yellow fever is reduced.

Wolbachia live inside insect cells and are passed from one generation to the next through an insect's eggs. *Aedes aegypti* mosquitoes don't normally carry Wolbachia, however many other mosquitoes do. method does not suppress mosquito populations or involve genetic modification (GM), as the genetic material of the mosquito is not altered.

**Source:**

<https://www.worldmosquitoprogram.org/en/work/wolbachia-method/how-it-works>

78. Consider the following activities :

1. Spreading finely ground basalt rock on farmlands extensively
2. Increasing the alkalinity of oceans by adding lime
3. Capturing carbon dioxide released by various industries and pumping it 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)

**EXPLANATION :**

- The procedure of removing, securing, and storing carbon dioxide from the atmosphere is known as carbon sequestration. The goal is to prevent carbon from warming the climate by stabilizing it in both solid and dissolved forms. The method has great potential for lowering the "carbon footprint" of people.
- Spreading finely ground basalt rock on farmlands extensively: This technique accelerates natural rock weathering, which occurs when carbon dioxide combines with rocks, and is known as accelerated rock weathering (ERW). The atmosphere's CO<sub>2</sub> is drawn out and changed into bicarbonates and/or carbonates. So, statement 1 is correct.
- Increasing the alkalinity of oceans by adding lime: Ocean alkalization is a carbon removal approach that adds alkaline substances to seawater to enhance the ocean's natural carbon sink. These substances may include minerals such as olivine, man-made substances such as lime, or industrial by-products. So, statement 2 is correct.
- Capturing carbon dioxide released by various industries and pumping it into abandoned subterranean mines in the form of carbonated waters : Carbon capture and storage (CCS) involves capturing, transporting, and storing or burying carbon dioxide (CO<sub>2</sub>) at appropriate depths at the source. CCS also means the direct or indirect removal of CO<sub>2</sub> from the atmosphere. So, statement 3 is correct.

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

- (a) Collecting DNA samples from air
- (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)

**EXPLANATION:**

Aerial metagenomics involves the collection and analysis of genetic material(DNA/RNA), particularly DNA, from the air in a specific habitat or environment. It aims to capture and study the genetic material present in airborne particles such as microorganisms, pollen, fungal spores, and other biological components. By collecting DNA/RNA samples from the air, researchers can gain insights into the biodiversity, microbial composition, and genetic diversity of a particular habitat. It can be used to study microbial communities, track the spread of airborne diseases, monitor environmental changes, and assess the overall genetic landscape of an ecosystem

**Source:**

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

80. 'Microsatellite DNA' is used in the case of which one of the following?
- Studying the relationships among species of fauna
  - Stimulating Evolutionary various 'stem cells' to transform into diverse functional tissues
  - Promoting clonal propagation of horticultural plants
  - Assessing the efficacy of drugs by conducting series of drug trials in a population

**Ans:** (a)

**EXPLANATION:**

Short tandem repeats (STRs), also known as microsatellites DNA or simple sequence repeats, are short tandemly repeated DNA sequences that involve a repetitive unit of 1-6 base pairs. Microsatellite DNA, is commonly used in genetic studies, particularly in the field of population genetics and evolutionary biology. By analysing microsatellite DNA, researchers can assess the genetic variation within and between populations, infer the relationships among individuals or species, and study patterns of gene flow, genetic diversity, and population structure.

**Source:**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5054066/>

81. Consider the following statements in relation to Janani Suraksha Yojana :
- It is a safe motherhood intervention of the State Health Departments.
  - Its objective is to reduce maternal and neonatal mortality among poor pregnant women.
  - It aims to promote institutional delivery among poor pregnant women.
  - 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?*

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

**Ans:** (b)

**EXPLANATION:**

- Janani Suraksha Yojana (JSY) is a safe motherhood intervention under the National Health Mission. So, statement 1 is incorrect.
- It is being implemented with the objective of reducing maternal and neonatal mortality by promoting institutional delivery among poor pregnant women. The scheme focuses on poor pregnant woman with a special dispensation for states that have low institutional delivery rates, namely, the states of Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Assam, Rajasthan, Orissa, and Jammu and Kashmir. While these states have been named Low Performing States (LPS), the remaining states have been named High Performing states (HPS). So, statement 2 & 3 are correct.
- National Health Mission is committed to provide services at zero expenditure to pregnant women and sick infants. Sick infants up to one year of age are entitled for free drugs, diagnostics, diet, referral transport and treatment in government health facilities. Provision of Rs. 200/- for drugs and Rs. 100/- for diagnostics is available under JSSK. These provisions can be pooled, and amount can be used for care of sick infants. So, statement 4 is incorrect.

**Source :**

<https://nhm.gov.in/index1.php?lang=1&level=3&lid=309&sublinkid=841>  
& [https://www.nhmmp.gov.in/RMNCH\\_CH\\_Scheme.aspx#:~:text=National%20Health%20Mission%20is%20committed,treatment%20in%20government%20health%20facilities](https://www.nhmmp.gov.in/RMNCH_CH_Scheme.aspx#:~:text=National%20Health%20Mission%20is%20committed,treatment%20in%20government%20health%20facilities). So, statements 1 & 4 are incorrect , but 2 & 3 are correct.

82. Consider the following statements in the context of interventions being undertaken under Anaemia Mukd Bharat Strategy :
- It provides prophylactic calcium supplementation for pre-school children, adolescents and pregnant women.
  - It runs a campaign for delayed cord clamping at the time of childbirth.
  - It provides for periodic deworming to children and adolescents.
  - 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)

**EXPLANATION:**

- The Anaemia Mukht Bharat : Anemia is a key health concern for young girls and boys across the country. But it is something that has a simple, workable solution – Blue, Iron Folic Acid (IFA) tablets once a week and deworming tablets every six months. It really is that simple. We need to create awareness about how these simple steps can have a huge and long-lasting impact on this generation of girls and boys and on the generations to come. It focuses on six target beneficiary groups, through six interventions and six institutional mechanisms to achieve the envisaged target under the POSHAN Abhiyan. A key intervention is to give Prophylactic Iron and Folic Acid supplementation to Children, School-going Adolescent Girls and Boys , Women of Reproductive Age and Pregnant Women & Lactating Mothers irrespective of anemia, under Anaemia Mukht Bharat. So, statement 1 is incorrect.
- Intensified year – round behaviour changes communication campaign ( Solid Body , Smart Mind ) including ensuring delayed cord clamping in newborns. So, statement 2 is correct.
- 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 the National Deworming Day (NDD) programme. So, statement 3 is correct.
- The strategy attempts to intensify awareness and integrate screening and treatment for following non-nutritional causes of anemia with special focus on malaria, haemoglobinopathies and fluorosis. So, statement 4 is correct.

**Source :**

<https://anemiamukhtbharat.info/interventions/> ; So, statement 1 is incorrect , but rest statements are correct.

**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)

**EXPLANATION:**

Carbon fibres or carbon fibres are fibres about 5–10 micrometres in diameter and composed mostly of carbon atoms. Carbon fibres have several advantages including high stiffness, high tensile strength, low weight, high chemical resistance, high temperature tolerance and low thermal expansion. These properties have made carbon fibre very popular in aerospace, civil engineering, military, and motorsports, along with other competition sports. However, they are relatively expensive when compared with similar fibres, such as glass fibres or plastic fibres. Therefore, Statement 1 is correct.

Currently, the most common recycling process used to recover carbon fibre from composite waste is pyrolysis, where high heat basically burns off the resin. Solvolysis, which uses a solvent to dissolve the resin, has long been claimed to offer superior properties. Therefore, Statement 2 is incorrect.

**Source:**

<https://www.materialsciencejournal.org/vol14no1/carbon-fibres-production-properties-and-potential-use/>  
<https://www.rmintl.com/news/sustainable-inline-recycling-of-carbon-fiber>

**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 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)

**EXPLANATION:**

- Accelerometers are devices which are used to measure or sense changes in velocity(acceleration).
- Accelerometers have multiple applications in industry and science. Highly sensitive accelerometers are components of inertial navigation systems for aircraft and missiles. Accelerometers are used to detect and monitor vibration in rotating machinery. Accelerometers are used in tablet computers and digital cameras so that images on screens are always displayed upright. Accelerometers are used in drones for flight stabilisation.
- One of the most common uses for MEMS accelerometers is in airbag deployment systems for modern automobiles. In this case the accelerometers are used to detect the rapid negative acceleration of the vehicle to determine when a collision has occurred and the severity of the collision.

- A free-fall sensor (FFS) is an accelerometer used to detect if a system has been dropped and is falling. It can then apply safety measures such as parking the head of a hard disk to prevent a head crash and resulting data loss upon impact.
- Some smartphones, digital audio players and personal digital assistants contain accelerometers for user interface control; often the accelerometer is used to present landscape or portrait views of the device's screen, based on the way the device is being held.

**Source:**

<https://www.engineersedge.com/instrumentation/accelerometers.htm>

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)

**EXPLANATION:**

- In recent decades, the use of biofilters to remove of contaminants from wastewater and waste gases is being developed. Biofilters use microorganisms, which are capable of degrading many compounds, fixed to an inorganic/organic medium (carrier) to break down pollutants present in a fluid stream. They also provide waste treatment by removing uneaten fish feed. So, statement 1 is correct.
- A properly designed biofilter will operate over a long period of time keeping ammonia and nitrite concentrations at levels that are not harmful to the fish. Biofilters convert ammonia nitrogen to nitrite nitrogen and then to the less toxic nitrate nitrogen for the fish. So, statement 2 is correct.
- Biofilters do not increase phosphorus as nutrient for fish in water. Phosphorus (P) is in fact removed to reduce the potential for eutrophication in waters. The present review deals with the studies conducted on the impact of phosphorus on growth of aquatic plants causing eutrophication in well-known water bodies the world over. The review covers the definition and concept of eutrophication and the adverse effects on quality and ecosystem functioning. The eutrophication of several water bodies leads to significant changes in the structure and function of the aquatic ecosystem. So, statement 3 is incorrect.

**Source :**

<https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/biofilter> ; So, statement 1 & 2 are correct , but 3 is incorrect.

86. Consider the following pairs :

**Objects in space**

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

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

**Ans:** (a)

**EXPLANATION:**

- A Cepheid is a star that varies in light intensity over regular, measurable periods. The period of pulsation is directly related to a Cepheid's intrinsic brightness making observations of these stars a powerful tool for determining distance.
- 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.
- Pulsars are rotating neutron stars (made up of neutrons) – the core of long-exploded supernovae, that form when massive stars run out of fuel and collapse upon itself due to huge gravity. They emit electromagnetic radiation that is only seen when the beam is pointing at Earth.
- Neutron stars are formed when a massive star runs out of fuel and collapses. The very central region of the star – the core – collapses, crushing together every proton and electron into a neutron. If the core of the collapsing star is between about 1 and 3 solar masses, these newly-created neutrons can stop the collapse, leaving behind a neutron star. (Stars with higher masses will continue to collapse into stellar-mass black holes.)

**Source:**

<https://svs.gsfc.nasa.gov/10145>

[https://iimage.gsfc.nasa.gov/science/objects/neutron\\_stars1.html#:~:text=Neutron%20stars%20are%20formed%20when,and%20electron%20into%20a%20neutron](https://iimage.gsfc.nasa.gov/science/objects/neutron_stars1.html#:~:text=Neutron%20stars%20are%20formed%20when,and%20electron%20into%20a%20neutron)

<https://www.space.com/15396-variable-stars.html>

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

- |               |            |
|---------------|------------|
| (a) Australia | (b) Canada |
| (c) Israel    | (d) Japan  |

Ans: (d)

**EXPLANATION:**

QZSS (Japan) - Japan's Quasi-Zenith Satellite System (QZSS) is operated by the Japan Aerospace Exploration Agency (JAXA) and was first launched in 2010. QZSS maintains Asia-Oceania regional coverage between Japan and Australia.

Navigation Systems	Country	Operator	Type	Coverage
Global Positioning System (GPS)	United States	Air Force Space Command (AFSPC)	Military, civilian	Global
GLONASS	Russia	Russian Aerospace Defense Forces, VVO	Military	Global
BeiDou Navigation Satellite System (BDS)	China	China National Space Administration (CNSA)	Military, commercial	Global Operational (regional)
Indian Regional Navigation Satellite System, IRNSS (Operational by 2014)	India	Indian Space Research Organisation (ISRO)	Military, civilian	Regional
Galileo (in development)	European Union	GSA, ESA	Civilian, commercial	Global
Quasi-Zenith Satellite System (QZSS) (in development)	Japan	Japan Aerospace Exploration Agency (JAXA)	Civilian	Regional

**Source:**

<https://novatel.com/tech-talk/an-introduction-to-gnss/what-are-global-navigation-satellite-systems-gnss#:~:text=There%20are%20four%20main%20constellations,managed%20by%20a%20different%20country.>

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 cruise missile, while Supersonic solid-fuelled BrahMos is 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)

**EXPLANATION:**

- A Ballistic missile is a missile that is lifted into space by a rocket and then descends toward its target in a free-falling ballistic trajectory (influence of gravity). These missiles follow a parabolic trajectory and are only powered during their climb, or boost phase. e.g AGNI series of missiles. AGNI V is an ICBM (Intercontinental Ballistic Missile).
- Cruise missiles fly through the atmosphere with constant propulsion (using jet engines like RAMjet/SCRAM jets) - similar to an aircraft - and follow trajectories that involve manoeuvres. E.g Brahmos is a Cruise missile.

Ballistic Missile	Cruise Missile
A ballistic missile is targeted as a projectile from a single launch force with not much added guidance.	A cruise missile locates its target, or has a preset target, and navigates there.
Powered on its way "up" only	Powered throughout its full journey.
Can be used for nuclear attack	Normally have on-board guidance and can follow pre-set paths to the target and hit targets much more precisely because their primary use is not that of nuclear attack.
Rocket-powered booster	Turbine-powered airplane
Fly high up into the atmosphere	
Rely on earth Gravity target	Don't rely on Earth Gravity

### THE DESI TOMAHAWK

<p><b>NIRBHAY MISSILE:</b></p> <ul style="list-style-type: none"> <li>&gt; Indigenous cruise missile</li> <li>&gt; 1,000-km strike range</li> <li>&gt; Carries nuclear warhead</li> <li>&gt; Can loiter &amp; cruise at Mach 0.7 (sub-sonic) at altitudes as low as 100-metre</li> <li>&gt; 1st test in Mar 2013 failed</li> <li>&gt; 2nd test in Oct 2014 was a partial success</li> <li>&gt; 3rd &amp; 4th tests in Oct 2015 &amp; Dec 2016 also flopped</li> </ul> <p><b>INDIA'S BALLISTIC MISSILES:</b></p> <ul style="list-style-type: none"> <li>&gt; Agni-I (700-km), Agni-II (2,000-km) &amp; Agni-III (3,000-km) inducted</li> <li>&gt; 2 years to induct Agni-IV (4,000-km) &amp; Agni-V (5,000-km)</li> <li>&gt; Prithvi-II &amp; Dhanush (150-350-km) inducted</li> <li>&gt; Submarine-launched ballistic missiles K-15 (750-km) &amp; K-4 (over 3,000-km) being tested</li> </ul>	<p><b>CRUISE VS BALLISTIC:</b></p> <ul style="list-style-type: none"> <li>&gt; Ballistic missiles follow parabolic path, leave &amp; re-enter atmosphere to hit target</li> <li>&gt; Ballistic missiles have longer ranges &amp; predetermined targets</li> <li>&gt; Cruise missiles fly at low-altitudes, hugging terrain to evade radars</li> <li>&gt; Cruise missiles loiter before striking targets</li> </ul>
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**INDIA'S BALLISTIC MISSILES:**

- > Agni-I (700-km), Agni-II (2,000-km) & Agni-III (3,000-km) inducted
- > 2 years to induct Agni-IV (4,000-km) & Agni-V (5,000-km)
- > Prithvi-II & Dhanush (150-350-km) inducted
- > Submarine-launched ballistic missiles K-15 (750-km) & K-4 (over 3,000-km) being tested

**Source:**  
<https://armscontrolcenter.org/wp-content/uploads/2017/04/Ballistic-vs.-Cruise-Missiles-Fact-Sheet.pdf>

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 |
| (c) All three | (d) None     |

**Ans:** (c)

**EXPLANATION:**

Mercury (Hg) is a global pollutant that affects human and ecosystem health. It summarizes our understanding of sources, atmospheric, land and ocean mercury dynamics, health impacts, and discusses implications for mercury management measures. Anthropogenic primary mercury emissions far outweigh natural terrestrial sources, leading to an increase in mercury reservoirs and consequent secondary mercury emissions, driving the global distribution of mercury. The ultimate fate of released mercury is primarily deep ocean waters and sediments, as well as recalcitrant soil accumulations.

Mercury-dependent manual small-scale gold mining (ASGM) is the largest source of mercury pollution on the planet. Artificial gold mining currently accounts for 37% of global anthropogenic mercury emissions. So, statement 1 is correct.

Coal combustion is the largest source of mercury emissions in India. Mercury is a widespread and persistent global toxicant that is transported across borders via air and water. As a signatory to the Minamata Convention, India seeks to monitor and reduce mercury emissions and has introduced stricter standards for mercury emissions from power plants. So, statement 2 is correct.

Mercury is a highly toxic element; there is no known safe level of exposure. So, statement 3 is correct.

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)

**EXPLANATION:**

- A hydrogen engine (HCE) is an engine that uses hydrogen (H<sub>2</sub>) as fuel. It is a modified gasoline-powered engine but doesn't emit any carbon-based pollution, which is a big benefit towards carbon neutrality. It's also vital to remember that HCEs vary from hydrogen fuel cells in that the former receive their energy via hydrogen burning while the latter derive it through electrochemical processes. HCEs operate similarly to 4-stroke gasoline engines (ICEs). But compared to gasoline, which has an octane rating of 90 (for premium gasoline), hydrogen has a higher-octane number of 130. As a result, HCEs have a superior air-to-fuel ratio of 180:1 compared to ICEs' ratio of 37:1. Thus, cars may operate on lean mixes (Less Fuel more air). So, statement 1 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 (e.g., integrity, dimensions, materials of construction), design and condition of pipeline infrastructure equipment (e.g., compressor stations), and design and condition of applications that utilize natural gas (e.g., building appliances, turbines, and chemical processes, such as plastics production). So, statement 2 is correct.
- A hydrogen fuel cell uses the chemical energy of hydrogen to produce electricity. It is a clean form of energy with electricity, heat and water being the only products and by-products. Fuel cells offer a variety of applications, from transportation to emergency back-up power, and can power systems as large as a power plant or as small as a laptop. Fuel cells provide advantages over traditional combustion-based technologies, including greater efficiencies and lower emissions. Since hydrogen fuel cells only emit water, there are no carbon dioxide emissions or other pollutants released into the atmosphere. Fuel cells are also quiet during operation as they have fewer moving parts than combustion technologies. So, statement 3 is correct.

**Source :**

file:///C:/Users/aniksingh/Downloads/fcm03r0r.pdf ; So, statement 1 is correct. file:///C:/Users/aniksingh/Downloads/hyblend-tech-summary.pdf ; So, statement 2 is correct. & https://www.twi-global.com/technical-knowledge/faqs/what-is-a-hydrogen-fuel-cell; So, statement 3 is correct.

**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 investments in plant and machinery between Rs. 15 crore and Rs.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:** (d)

**EXPLANATION:**

- The classification of Micro, Small and Medium Enterprises is defined under the MSMED Act 2006 amendment dated 01/06/2020. The Micro, Small and Medium Enterprises is based on the Investment in Plant, Machinery or Equipment values (excluding land and building) and Annual Turnover. This shall come into effect from 01.07.2020.
- Micro Enterprise: Where the investment in Plant and Machinery or Equipment does not exceed one crore rupees and turnover does not exceed five crore rupees.
- Small Enterprise: Where the investment in Plant and Machinery or Equipment does not exceed ten crore rupees and turnover does not exceed fifty crore rupees.
- Medium Enterprises: Where the investment in Plant and Machinery or Equipment does not exceed fifty crore rupees and turnover does not exceed two hundred and fifty crore rupees.
- So, statement 1 is incorrect.
- Bank loans to Micro, Small and Medium Enterprises, for both manufacturing and service sectors are eligible to be classified under the priority sector as per the following norms:
- Manufacturing Enterprises: The Micro, Small and Medium Enterprises engaged in the manufacture or production of goods to any industry specified in the first schedule to the industries (Development and Regulation) Act, 1951 and as notified by the Government from time to time. The manufacturing enterprises are defined in terms of investment in Plant & Machinery and Turnover.
- Service Enterprises: All bank loans to MSMEs, engaged in providing or rendering of services as defined in terms of investment in equipment & turnover under MSMED Act, 2006, shall qualify under priority sector without any credit cap. So, statement 2 is incorrect.

**Source :**

https://msme.gov.in/faqs/q1-what-definition-msme ; So, statement 1 is incorrect. & file:///C:/Users/aniksingh/Downloads/msme%20policy%202022-2307062022%20(1).pdf ; So, statement 2 is incorrect.

**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 a condition programmed into it such as a timeframe 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)

**EXPLANATION:**

- Central bank digital currencies (CBDCs) are a form of digital currency issued by a country's central bank. They are similar to cryptocurrencies, except that their value is fixed by the central bank and equivalent to the country's fiat currency. Countries will be able to directly exchange digital currencies in a bilateral way and without going through SWIFT or similar settlement systems. So, statement 1 is correct.
- A CBDC is programmable to the point that the currency can be made to expire, thus forcing consumers to use it upto a certain date. So, statement 2 is correct.

**Source:**

<https://www.investopedia.com/terms/c/central-bank-digital-currency-cbdc.asp> ; So, statement 1 is correct.  
& <https://www.msn.com/en-us/money/news/%E2%80%9Cdigital-currency-yuan-comes-with-an-expiry-date-spend-or-it-will-vanish%E2%80%9D/vi-AA12ze8O?category=foryou> ; statement 2 is correct.

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 a 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 changes in the overall stock market

Ans: (d)

**EXPLANATION:**

The beta calculation is used to help investors understand whether a stock moves in the same direction as the rest of the market. It also provides insights into how volatile—or how risky—a stock is relative to the rest of the market. For beta to provide any useful insight, the market that is used as a benchmark should be related to the stock. For example, calculating a bond ETF's beta using the S&P 500 as the benchmark would not provide much helpful insight for an investor because bonds and stocks are too dissimilar. So, option ( d ) is correct.

**Source :**

[https://www.investopedia.com/terms/b/beta.asp#:~:text=Beta%20\(%CE%B2\)%20is%20a%20measure,\(usually%20the%20S%26P%20500\)](https://www.investopedia.com/terms/b/beta.asp#:~:text=Beta%20(%CE%B2)%20is%20a%20measure,(usually%20the%20S%26P%20500)) ; So, option ( d ) is correct.

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)

**EXPLANATION:**

- In India, banks are the predominant agency for delivery of micro-credit. In 1970, Ilaben Bhat, founder member of 'SEWA'(Self Employed Women's Association) in Ahmadabad, had developed a concept of 'women and micro-finance'. The Annapurna Mahila Mandal' in Maharashtra and 'Working Women's Forum' in Tamil Nādu and many National Bank for Agriculture and Rural Development (NABARD)-sponsored groups have followed the path laid down by 'SEWA'. 'SEWA' is a trade union of poor, self-employed women workers. So, statement 1 is incorrect.
- In an SHG, all members of a group take responsibility for a loan that an individual member takes. So, statement 2 is correct.
- The Regional Rural Banks and Scheduled Commercial Banks support SHGs. So, statement 3 is correct.

**Source :**

<file:///C:/Users/aniksingh/Downloads/SHG-Maharashtra.pdf> ; So, statement 1 is incorrect ,but 2 & 3 are correct.

95. Consider the following statements :
- I India's public sector health care system largely focuses on curative care with limited preventive, promotive and rehabilitative care.
  - 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-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)

**EXPLANATION:**

Improve health status through concerted policy action in all sectors and expand preventive, promotive, curative, palliative and rehabilitative services provided through the public health sector with focus on quality. So, statement I is correct .

The primary aim of the National Health Policy, 2017, is to inform, clarify, strengthen and prioritize the role of the Government in shaping health systems in all its dimensions- investments in health, organization of healthcare services, prevention of diseases and promotion of good health through cross sectoral actions, access to technologies, developing human resources, encouraging medical pluralism, building knowledge base, developing better financial protection strategies, strengthening regulation and health assurance. So, Statement-II is correct, but Statement-II is not the correct explanation for Statement-I.

**Source :**

file:///C:/Users/aniksingh/Downloads/9147562941489753121.pdf

96. Consider the following statements :

- 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.
- 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)

**EXPLANATION:**

- According to the United Nations world water Development Report 2022 , The report also notes that India is the largest groundwater user globally with an estimated withdrawal of 251 km<sup>3</sup> per year through an estimated 20 million wells and tube wells. This accounts for almost 26% of the groundwater extracted globally. So, statement I is correct.
- India uses about 89% of the ground water for irrigation. Major share of total ground water extracted by India is used for irrigation and not for drinking and sanitation. So, statement II is incorrect.

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)

**EXPLANATION:**

- Statement 1 correct - Art 355 clearly states that it is the duty of the Union to protect States against external aggression and internal disturbance.
- Statement 2 correct - Art 22(3) clearly states that the right to be defended by a legal practitioner in case of arrests is not applicable in case of preventive laws.
- Statement 3 incorrect - Art 32 POTA,2002 overrode the Indian Evidence Act to give validity to statements given in front of Police Officials in terrorism cases. (The Act has been repealed)

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)

**EXPLANATION :**

Costa Rica and Ecuador are Central and South American countries respectively. Horn of Africa has been recently in news due to harsh consequences of climate change and Somalia is one of the nations.

**Source :**

[https://www.africanews.com/2023/01/31/22-million-people-at-risk-of-hunger-in-horn-of-africa-due-to-drought//](https://www.africanews.com/2023/01/31/22-million-people-at-risk-of-hunger-in-horn-of-africa-due-to-drought/)

99. Consider the following statements :

1. In India, the Biodiversity 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)

**EXPLANATION:**

- Biodiversity Management Committees (BMCs) are established in local bodies throughout the country under the provisions of the National Biodiversity Act of 2002 and relevant state regulations enacted thereunder. The Act implements India's obligations under the 1992 Convention on Biological Diversity (CBD), to which India is a party. use, and reflect the three purposes of CBD. Fair and equitable sharing of benefits derived from the use of biological resources and related knowledge.
- BMC is primarily responsible for compiling a Biodiversity Register (PBR) containing comprehensive knowledge on the availability and knowledge of local biological resources, their medicinal or other uses, or associated traditional knowledge. However, it also has an important function in accessing and providing access. Profit sharing (ABS) includes the power to collect research fees for access to biological resources within its jurisdiction. BMC is therefore crucial to achieving the goals of the Nagoya Protocol (2010) negotiated under the CBD. The Protocol calls on Parties to take action to ensure that indigenous peoples and local communities benefit from the use of genetic resources and associated traditional knowledge streams. on mutually agreed terms. So, statement 1 is correct.
- The BMC may levy charges by way of collection fees from any person for accessing or collecting any biological resource for commercial purposes from areas falling within its territorial jurisdiction. The Board shall provide guidance to the BMCs for the said purpose. So, statement 2 is correct.

**Source :**

<https://www.epw.in/journal/2022/9/commentary/paper-practice.html>; So, statement 1 is correct.  
& <https://sbb.haryanaforest.gov.in/project/biodiversity-management-committee-bmc/> ; So, statement 2 is correct.

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 seats in 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)

**EXPLANATION:**

- Statement 1 incorrect- Art 54 states that only elected members of Parliament or Legislative Assemblies are part of the electoral college.
- Statement 2 incorrect - Value of each MLA vote = Population of State / (Number of Legislative Assembly Seats \* 1000)
- The relation is inversely proportional as there is parity in representation of different States in the election in proportion of the population and the number of elected members of Legislative Assembly of each State.
- Statement 3 incorrect - The number of seats in MP is much higher than Kerala, reducing the value of individual vote.
- Statement 4 correct - Puducherry has half the number of seats as Arunachal Pradesh. The population being comparable, the value of individual vote is higher for Puducherry.

**Source :**

file:///C:/Users/aniksingh/OneDrive%20-%20Wiley/Desktop/UPSC%20CSE%20Exam%202023%20Answer%20Key%20Paper%20I/Current%20President%20Election%20Data%20by%20ECI.pdf