# **Forum** AS

# 10 PM Current Affairs Quiz Compilation

September, 2021 (Third Week)

#### SCIENCE AND TECHNOLOGY

# Q.1) With reference to dissipation of acoustic energy by honeycomb structures based on natural beehives, consider the following statements:

- 1. These structures have been found to efficiently control high as well as low frequencies of Acoustic energy.
- 2. The vibration energy produced is dissipated in the form of heat due to wall damping properties.

#### 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

#### Connect Answer: C

#### **Explanation**

#### Both statements are correct.

- An Indian researcher recently fabricated paper honeycomb and stronger polymer honeycomb structure as sound-absorbing panels that **dissipate acoustic energy to low-frequency ranges**.
- Many traditional materials have been found to be good at controlling higher frequencies, but not at lower frequency ranges.
- However, natural **beehives** have been found to **efficiently control high as well as low frequencies because of their geometry**. This behaviour was owing to the conversion of acoustical energy into vibration energy. This vibration energy is dissipated in the form of heat due to wall damping properties.

Hence, mimicking this property as an engineering solution could offer a **cost-effective method** for controlling noise pollution.

Source: Article

# Q.2) With reference to Coronal Mass Ejections (CMEs), consider the following statements:

- 1. During a CME, enormous bubbles of superheated gas called plasma are ejected from the sun.
- 2. They can occur anywhere on the Sun.

#### Which of the statements given above is/are incorrect?

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

#### Connect Answer: D

#### Explanation:

• **Statement 1 is correct**: CME is an ejection of highly magnetised particles from the sun. During a CME, enormous bubbles of superheated gas – called plasma – are ejected from the sun. The underlying cause of CMEs is not well understood. However, astronomers agree, that the sun's magnetic field plays a major role.

• **Statement 2 is correct**: Though CMEs can occur anywhere on the Sun, it is primarily those which originate from regions near the centre of the visible solar surface (called the photosphere) that are important for study, since they may propagate directly towards the Earth.

Source: Article

### Q.3) Which of the following correctly defines the term Zero Shot Learning (ZSL)?

- a) A process via which a machine learns how to recognize objects in an image without any labeled training data.
- b) An encryption algorithm to protect high-value crypto transactions over the blockchain.
- c) A new model of higher education teaching resulting in increased learning outcomes.
- d) A neurological mechanism through which a human brain learns to assimilate information.

# Connect Answer: A Explanation

- In machine learning, zero-shot learning refers to the process by which a machine learns how to recognize objects in an image without any labeled training data to help in the classification. In other words, ZSL aims to help machines categorize objects that they have never seen before.
- For example, given a set of images of animals to be classified, along with auxiliary textual descriptions of what animals look like, an AI which has been trained to recognize horses, but has never seen a zebra, can still recognize a zebra if it also knows that zebras look like striped horses.

Source: Article

#### Q.4) With reference to sterile insect technique, consider the following statements:

- 1. Under this method biological insect control large numbers of sterile insects are released into the wild.
- 2. Insects used for this method are preferably female.

#### 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

# Correct Answer: A

#### Explanation:

- **Statement 1 is correct**: The sterile insect technique is a method of biological insect control whereby overwhelming numbers of sterile insects are released into the wild.
- **Statement 2 is incorrect**: The released insects are preferably male as this is more cost-effective and the females may in some situations cause damage by laying eggs in the crop, or, in the case of mosquitoes, taking blood from humans

# Q.5) With reference to the saline gargle RT-PCR technique, consider the following statements:

- 1. It is an entirely non-invasive technique.
- 2. It has been developed by National Institute of Virology.

#### Which of the statements given above is/are incorrect?

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

#### **Correct Answer: B**

#### **Explanation:**

- **Statement 1 is correct**: The method is non-invasive and simple enough for a patient to collect his/her own sample for testing. A simple collection tube filled with a saline solution is used. The patient gargles with the solution and rinses it inside the tube.
- **Statement 2 is incorrect**: it has been developed by National Environmental Engineering Research Institute (NEERI).

Source: Article

#### **Q.6)** Which of the following statement is true about **REX MKII?**

- a) It is a social humanoid robot that is capable of imitating human gestures and facial expressions
- b) It is the vaccine developed to fight against the deadly Corona virus Delta variant.
- c) It is the mission by NASA that will place a single geophysical lander on Mars to study its deep interior.
- d) It is a remote-controlled armed robot that can patrol battle zones, track infiltrators and open fire.

#### **Correct Answer D**

#### Explanation:

**Statement a is incorrect:** It is about Sophia Robot. The humanoid robot can track faces, maintain eye contact and recognize people.

Statement c is incorrect: It is about NASA Insight mission.

**Statement d is correct:** REX MKII is a remote-controlled armed robot of Israel that can patrol battle zones, track infiltrators and open fire. It is operated by an electronic tablet and can be equipped with two machine guns, cameras and sensors. It can also run autonomously. The robot can gather intelligence for ground troops, carry injured soldiers and supplies in and out of battle and strike nearby targets.

#### Q.7) With reference to low-C bricks, consider the following statements:

- 1. They require high-temperature firing.
- 2. These bricks use the Portland Cement.

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

Correct Answer: D Explanation:

#### Both statements are incorrect.

• Researchers have developed a technology to produce energy-efficient walling materials using construction and demolition (C&D) waste and alkali-activated binders. These are called low-C bricks, do not require high-temperature firing, and avoid the use of high-energy materials such as Portland cement. The technology will also solve the disposal problems associated with C&D waste mitigation.

Source: Article

# Q.8) Which of the following statements correctly defines the term Hydrodynamic Cavitation?

- a) It is a process by which shale gas is extracted from the sedimentary rocks.
- b) It refers to a process which occurs in a flowing liquid as a result of a decrease and subsequent increase in local pressure.
- c) A mechanical procedure employed in cleaning up of an oil spill over the surface of the Ocean.
- d) A geomorphic process which results in the creation of weathering and erosion landforms.

# Correct Answer: B Explanation:

- Indian scientists have developed a new sustainable and affordable solution for converting keratin waste such as human hair, wool, and poultry feathers to fertilizers, pet, and animal feeds.
- They used advanced oxidation for the conversion of the waste to marketable fertilizers and animal feed. The key technology behind this involves pre-treatment followed by hydrolysis of keratin using a technique called Hydrodynamic Cavitation, which involves vaporization, bubble generation, and bubble implosion in a flowing liquid.
- **Hydrodynamic Cavitation** is a process of vaporisation, bubble generation and bubble implosion which occurs in a flowing liquid as a result of a decrease and subsequent increase in local pressure. Cavitation will only occur if the local pressure declines below the saturated saturated vapor pressure of the liquid.

#### **SCHEMES AND PROGRAMS - SCHEMES**

# Q.1) With reference to Transport and Marketing Assistance (TMA) scheme for Specified Agriculture Products, consider the following statements:

- 1. The scheme aims to provide assistance for only the international component of freight and marketing of agricultural produce.
- 2. It was launched by Ministry of Agriculture and Farmer's Welfare.

#### Which of the above statements is/are correct?

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

#### **Correct Answer: A**

#### **Explanation**

- **Statement 1 is correct**: The scheme aims to provide assistance for the international component of freight and marketing of agricultural produce. The assistance will help mitigate the disadvantage of higher freight costs faced by the Indian exporters of agriculture products.
- Statement 2 is incorrect: Scheme was launched by Ministry of Commerce and Industry

Source: Article

#### Q.2) With reference to Atal Beemit Kalyan Yojana, consider the following statements:

- 1. It is a welfare measure programme for Insured Persons covered under the Employees State Insurance Act, 1948.
- 2. Under this, government provide the relief package for the poor to help them fighting against Corona virus.

#### Which of the above statements is/are correct?

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

#### Answer A

**Statement 1 is correct:** Under Atal Beemit Kalyan Yojana, unemployment allowance is paid at 50% of wages for 3 months to those insured persons who lose their jobs for any reason.

The unemployment allowance shall become due for payment after 30 days from the date of unemployment and the claim can be submitted directly to the designated ESIC Branch Office by the worker.

**Statement 2** is incorrect: The statement is about Pradhan Mantri Garib Kalyan Yojana . Under this, a comprehensive relief package of Rs 1.70 Lakh Crore Yojana for the poor to help them fight the battle against Corona Virus. This was announced in March 2020, to reach out to the poorest of the poor, with food and money in hands, so that they do not face difficulties in buying essential supplies and meeting essential needs.

Source: PIB

**Q8)** With reference to **PRANA portal**, which of the following statements is/ are correct:

- a) It is a portal for monitoring the implementation of the National Clean Air Programme (NCAP).
- b) It is the portal for Indian citizens to access information about all the services offered to them.
- c) It is the portal to grant certificate of disability to disabled people through online mode only
- d) It is a "one-stop access" of elderly care products and services by credible start-ups.

#### **Correct Answer A**

#### **Explanation:**

#### **About Prana portal**

Full Form: PRANA stands for Portal for Regulation of Air-pollution in Non-Attainment cities.

**Developed by**: Central Pollution Control Board (CPCB) in partnership with Knowledge Lens (a B2B product company)

**Purpose**: It is a portal for monitoring the implementation of the National Clean Air Programme (NCAP). It will support tracking of physical as well as financial status of city air action plan implementation and disseminate information on air quality management efforts under NCAP to the public.

Source: Article

Q.9) With reference to MGNREGA, consider the following statements:

- 1. It provides guaranteed 150 days of employment in every financial year to adult members of any rural household
- 2. Skilled and unskilled persons who are willing to do work are covered under this scheme. 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

#### **Correct Answer B**

#### **Explanation:**

**Statement 1 is incorrect:** It provides guaranteed 100 days of employment in every financial year to adult members of any rural household.

**Statement 2 is correct:** It provides work to any rural household willing to do public work-related unskilled manual work.

Source: Business Standard

#### Q.10) With reference to "Sansad TV" consider the following statements:

- 1. It has been formed by merging the two parliamentarian channels Lok Sabha TV and Rajya Sabha TV.
- 2. It was done based on the recommendation of Surya Prakash committee.

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

#### **Correct Answer C**

#### Explanation;

**Statement 1 is correct:** Sansad TV has been formed by merging the two parliamentarian channels Lok Sabha TV and Rajya Sabha TV. The Prime Minister of India has launched Sansad TV on the occasion of the International Day of Democracy.

**Statement 1 is correct:** The merger was done based on the recommendations of a committee formed in 2019 under former Prasar Bharati Chairman Surya Prakash.

Source: https://blog.forumias.com/pm-launches-sansad-tv/

#### Q.11) Crime in India report is released by which of the following organization?

- a) NITI Aayog
- b) Department Of Internal Security
- c) Department of Defence
- d) National Crime Records Bureau (NCRB)

# Correct Answer: D Explanation:

National Crime Records Bureau(NCRB) has released a report titled Crime in India 2020.

**Registration of Cases:** There was a 28% increase in the registration of cases in 2020 in the country compared to 2019. The surge in cases was primarily due to cases registered under violation of COVID-19 norms.

**Special and Local Laws:** Cases increased by four times under the Special and Local Laws (SLL) between 2019 and 2020. This section refers to state regulations imposed to enforce COVID-19 norms. On the other hand, the cases under 'traditional crime' had reduced by about 2 lakh cases in 2020.

Read more: 28% jump in filing of cases in 2020: NCRB



#### **GEOGRAPHY**

#### Q.1) Qegertag Avannarleg sometimes seen in news is related to?

- a) A new island has been discovered off the coast of Greenland.
- b) Proposed NASA mission to study Saturn's outer rings.
- c) An oil eating algae found deep inside the Atlantic Ocean.
- d) Bird species of sub-Saharan Africa used in honey-hunting.

#### Correct Answer: A

#### **Explanation**

- Recently, a new island has been discovered off the coast of Greenland.
- The newly discovered island measures 60×30 metres. It is three metres above sea level and has now become the new northernmost piece of land on Earth. Before this, **Oodaaq** was marked as the Earth's northernmost terrain.

Researchers suggested naming the new island as 'Qeqertaq Avannarleq', which is Greenlandic for "the northernmost island".

Source: Article

**Q.2)** With reference to **Yamuna**, consider the following statements:

- 1. Yamuna originates from Yamunotri glaciers in the Kumaon ranges of lower Himalayas.
- 2. Chambal, Sindh, Betwa, Ken are the tributaries of Yamuna.

#### Which of the above statements is/are correct?

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

#### **Correct Answer B**

#### Explanation:

Statement 1 is incorrect: It originates from the Yamunotri Glacier on the southwestern slopes or Banderpoonch peak in the Mussoorie range of the lower Himalayas.

**Statement 2 is correct:** Tons, Giri, Hindon, Chambal, Sind, Betwa, Ken are important triburaties of Yamuna.

Source: The Hindu

- **Q.3)** With reference to corals, consider the following statements:
- 1. Corals are found only in tropical water.
- 2. Among the hard and soft corals, only hard corals can build reefs.

#### Which of the above statements is/are correct?

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

#### **Correct Answer B**

#### **Explanation:**

**Statement 1 is incorrect:** While the majority of coral reefs are found in tropical and subtropical waters, there are also deep-water corals in colder regions. According to the United Nations Environment Programme, there are more cold-water coral reefs worldwide than tropical reefs. The largest cold-water coral reef is the Rost Reef off Norway.

**Statement 2 is correct:** There are two major types of corals: hard corals and soft corals, such as sea fans and gorgonians. Only hard corals build reefs.

Source: DTE

# Q.4) With reference to the National Institutional Ranking Framework (NIRF), Consider the following statements.

- 1. Only the higher educational institutions in the country are considered for ranking.
- 2. It is an initiative of NITI Aayog.

#### Which of the statements given above is/are incorrect?

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

#### Correct Answer: B

#### **Explanation:**

The Ministry of Education has released the sixth edition of the India Rankings 2021 instituted by the National Institutional Ranking Framework (NIRF).

#### **About NIRF**

**Launched by:** The National Institutional Ranking Framework(NIRF) was launched in 2015 by the **Ministry of Education**. (**Statement 2 is incorrect**)

**Objective:** To rank higher educational institutions in the country based on objective criteria to promote competitive excellence. (**Statement 1 is correct**)

Source: Union Education Minister releases India Rankings 2021

#### **Q.5)** With reference to **Organic farming**, consider the following statements:

- 1. It is the type of farming which uses fertilizers of organic origin such as compost manure, green manure etc.
- Sikkim became the first State in the world to become fully organic in 2016.

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

#### **Correct Answer C**

#### **Explanation:**

**Statement 1 is correct**: Organic farming is an agricultural system that uses fertilizers of organic origin such as compost manure, green manure, and bone meal and places emphasis on techniques such as crop rotation and companion planting.

**Statement 2 is correct:** Sikkim became the first state in the world to become fully organic in 2016.

Created with love ♥ by ForumIAS- the knowledge network for civil services. Visit academy.forumias.com for our mentor based courses.

**Source: Livemint** 

#### Q.6) With reference to permafrost, consider the following statements:

- 1. Permafrost is any ground that remains completely frozen for at least two years straight.
- 2. The active layer of the permafrost stays frozen all year long.
- 3. Lower permafrost layers contain soils made mostly of minerals.

#### Which of the statements given above is/are correct?

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

#### Correct Answer: C

#### Explanation:

- **Statement 1 is correct:** Permafrost is any ground that remains completely frozen—32 °F (0 °C) or colder—for at least two years straight.
- Statement 2 is incorrect: A layer of soil on top of permafrost does not stay frozen all year. This layer is called the active layer. This layer thaws during the warm summer months and freezes again in the fall. In colder regions, the ground rarely thaws—even in the summer.
- **Statement 3 is correct**: Near the surface, permafrost soils also contain large quantities of organic carbon—a material leftover from dead plants—that couldn't decompose, or rot away, due to the cold. Lower permafrost layers contain soils made mostly of minerals.

Source: Article

#### Q.7) With reference to Thamirabarani river, consider the following statements:

- 1. It originates at the western slope of the Eastern Ghats.
- 2. It is a seasonal river.

#### 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

#### Correct Answer: d

#### Explanation:

#### Both statements are incorrect.

- Thamirabarani river originates at the eastern slope of the Western ghats.
- It is a perennial river.

#### Bills, Acts and Regulations - Acts - Arbitrations

- Q.1) With reference to Arbitration Act and Land Acquistion in India, consider the following statements.
- 1. The government can acquire land for highways without a fair mechanism for compensation.
- 2. If the landowner is dissatisfied with the compensation, he can seek reconsideration by an Arbitrator.
- 3. Under Section 34 of the Arbitration Act, the courts can modify the award or increase the compensation.

#### Which of the statements given above is/are correct?

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

#### Correct Answer: A

#### **Explanation:**

In the recent **Project Director, NHAI vs M Hakeem case**, the SC ruled that the government can acquire land for highways without a fair mechanism for compensation. (**Statement 1 is correct**)

National Highways Act, 1956 (amended 1997): Under it, government servants fix the compensation while acquiring the land. If the landowner is dissatisfied with the compensation, he can seek reconsideration. (Statement 2 is correct)

This is a remedy in **section 34 of the Arbitration Act**. But this provides only limited appeal in a court of law. Under **Section 34 of the Arbitration Act**, the **courts cannot modify the award** or increase the compensation itself. It can **either set aside** the award **or leave it to be re-decided** by the arbitrator. (**Statement 3 is incorrect**)

Source: A very consequential Supreme Court ruling: When govt values land unjustly, landowners cannot seek full remedy in lower courts

#### **Environment - PROTECTED AREAS - Others**

# **Q.1) India's largest open-air fernery** was recently inaugurated in which of the following states?

- a) Kerala
- b) Karnataka
- c) Himachal Pradesh
- d) Uttarakhand

#### **Correct Answer: D**

#### **Explanation:**

Recently, India's Largest open air fernery was inaugurated in Uttarakhand's Ranikhet.

#### About open air fernery:

The fernery is home to a large number of fern species, some of which are endemic to the state, some hold medicinal value while some are threatened species that demand care and conservation.

The fernery has the largest collection of fern species, second to only Jawaharlal Nehru Tropical Botanical Garden and Research Institute (TBGRI), Thiruvananthapuram.

However, it is the country's first open-air fernery in natural surroundings which is not under any poly-house/ shade house.

Source: All India Radio.

# Q.2) With reference to National Clean Air Programme (NCAP), consider the following statements:

- 1. It aims to improve air quality at city, regional and national level.
- 2. It has a target of 25% reduction of  $PM_{10}$  and  $PM_{2.5}$  concentration by 2025.

#### 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

#### **Correct Answer: A**

#### **Explanation:**

- **Statement 1 is correct**: It is a comprehensive initiative in partnership with various Ministries and States to improve air quality at city, regional and national level.
- **Statement 2 is incorrect**: It has a target of 20%–30% reduction of Particulate Matter (PM10 and PM2.5) concentration by 2024.

Source: Article

#### Q.3) With reference to Fluoride, consider the following statements:

- 1. Fluoride is an essential micronutrient and has both beneficial and detrimental effects on human health.
- 2. It is carcinogenic like arsenic.

- a) 1 only
- b) 2 only

- c) Both 1 and 2
- d) Neither 1 nor 2

#### **Correct Answer: A**

#### **Explanation:**

**Statement 1 is correct**: Fluoride is an essential micronutrient and has both beneficial and detrimental effects on human health.

**Statement 2 is correct**: Fluoride is not carcinogenic like arsenic. It attacks the calcium in the body,

Source: DTE

# Q.4) Groundswell Report on climate change is released by which of the following organizations?

- a) UNEP
- b) WB
- c) IMF
- d) WEF

### Correct Answer: B

#### **Explanation:**

Report is released by the World Bank.

Source: The Hindu

Q.5) With reference to pollution in Yamuna River, consider the following statements.

- 1. Less water in the river is one of the reasons for Yamuna River pollution in Delhi.
- 2. Yamuna Action Plan (YAP) aims for the improvement of water quality conservation in the river and hygiene environment.

#### 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

#### **Correct Answer: B**

#### **Explanation:**

**A committee by the National Green Tribunal (NGT)** states that Delhi accounts for 76% of the pollution load on the river.

The major causes of pollution in Delhi include Less water availability, Drains dumping sewage and industrial effluents, etc. (Statement 1 is incorrect)

1st Yamuna Action Plan (YAP): It was signed in 1992. It aims for the "improvement of water quality conservation in the river and hygiene environment in the cities in the river basin".

**3rd YAP (YAP-III):** It is presently underway. But the present condition of Yamuna does not even fit for bathing in the Delhi stretch, except for Palla. It is the point where the river enters Delhi. **(Statement 2 is correct)** 

Source: Cleaning the Yamuna a story of missed deadlines

# Q.6) With reference to Leadership Group for Industry Transition (LeadIT) initiative, consider the following statements:

- 1. It gathers countries and companies that are committed to action to achieve the Paris Agreement.
- 2. It was launched by India and Sweden with the support from World Economic Forum.

#### 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

#### Correct Answer: C

#### **Explanation:**

#### Both statements are correct.

- Launched by: Government of Sweden and India at the UN Climate Action Summit in 2019 with the support from World Economic Forum.
- **Aim:** The group gathers countries and companies that are committed to achieve the targets of the **Paris Agreement** by reaching net-zero carbon emissions from industry by 2050.

Source: Article

# Q.7) Athikaraya, Kayame, Srihati, and Bhejri sometimes seen in news, these are associated with which of the following?

- a) Indigenous rice
- b) Folk rituals
- c) Medicinal herbs
- d) Sacred groves

### Correct Answer: A

#### **Explanation:**

- As many as 12 folk varieties of Indian rice examined by researchers can supplement the nutritional demand of important fatty acids in undernourished mothers.
- In India, many folk varieties of rice like Athikaraya, Dudh-sar, Kayame, Neelam samba, Srihati, Maharaji and Bhejri are known to enhance milk production in lactating women. Other traditional varieties like Kelas, DudheBolta and Bhutmoori are rich in iron and can be included in diet of mothers to treat anaemia.

Source: DTE

#### Q.8) With reference to hybodont shark, consider the following statements:

- 1. It was a dominant group of fishes found in both marine and fluvial environments.
- 2. It became extinct at the end of the Cretaceous period.

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

# Correct Answer: C

**Explanation:** 

#### Both statements are correct.

• Hybodonts, an extinct group of sharks, was a dominant group of fishes in both marine and fluvial environments during the Triassic and early Jurassic time. However, hybodont sharks started to decline in marine environments from the Middle Jurassic onwards until they formed a relatively minor component of open-marine shark assemblages. Hybodonts finally became extinct at the end of the Cretaceous time 65 million years ago.

Source: PIB

# Q.9) With reference to Geological Survey of India (GSI), consider the following statements:

- 1. It conducts both ground-based and marine survey to update national geoscientific information.
- 2. It is an attached office under Ministry of Earth Sciences.

#### 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

# Correct Answer: A

#### Explanation:

- **Statement 1 is correct**: Its main functions relate to creating and updating of national geoscientific information and mineral resource assessment. These objectives are achieved through ground surveys, air-borne and marine surveys, mineral prospecting and investigations, multi-disciplinary geoscientific, geo-technical etc.
- **Statement 2 is incorrect**: Its headquarters is in Kolkata. GSI an attached office to the Ministry of Mines has regional offices in Lucknow, Jaipur, Nagpur, Hyderabad and Shillong. GSI also has unit offices in almost all States of the country.

#### Q.10) Shoonya initiative sometimes seen in news is associated with?

- a) Formulating India's net zero emission targets before the Glasgow Climate Change conference.
- b) Promoting zero-pollution delivery vehicles by working with consumers and the industry.
- c) Swachh Bharat Campaign's zero garbage-centric approach to smart cities.
- d) identifying, developing and deploying technologies for converting waste to wealth.

#### Correct Answer: b

#### Explanation:

**Shoonya** is an initiative **to promote zero-pollution delivery vehicles** by working with consumers and the industry.

**Aim:** To accelerate the adoption of electric vehicles (EVs) in the urban deliveries segment and create consumer awareness about the benefits of zero-pollution delivery.

**As part of the campaign**, a corporate branding and certification programme is being launched to recognise and promote the industry's efforts towards transitioning to EVs for final-mile deliveries.

**Moreover,** an online tracking platform will share the campaign's impact through data such as vehicle-kilometres electrified, carbon savings, criteria pollutant savings and other benefits from clean delivery vehicles.

Source: Article

#### Q.11) With reference to Black tigers, consider the following statements:

- 1. Black coat colouration and patterning is due to a single mutation in the Taqpep gene.
- 2. The melanistic tiger species is found only in India.

#### 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

#### Correct Answer: C

#### **Explanation:**

#### Both statements are correct.

- A recent study has discovered that the coat colouration and patterning that make the wild cats appear dark boil down to a single mutation in the Transmembrane Aminopeptidase Q (Taqpep) gene.
- The only other black tigers outside of Similipal in India exist at the Nandankanan Zoological Park in Bhubaneswar, Ranchi Zoo and Chennai's Arignar Anna Zoological Park, where they were born in captivity. These captive-born tigers shared a common ancestry with Similipal tigers.
- The tiger species known as the melanistic tiger is found only in India.

Source: Article

# Q.12) With reference to Mura-Drava-Danube (MDD) Biosphere Reserve, consider the following statements:

- 1. Reserve stretches across Austria, Slovenia, Croatia, Hungary and Serbia.
- 2. The reserve is uninhabited.

#### 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

#### **Correct Answer: A**

#### **Explanation:**

- **Statement 1 is correct**: MDD Biosphere reserve is a transboundary reserve stretching across 5 countries of Austria, Slovenia, Croatia, Hungary and Serbia.
- **Statement 2 is incorrect**: The reserve is inhabited by around 9 lakh people.

#### **Modern History**

#### **Q.1)** With reference to **Battle of Saragarhi**, Consider the following statements.

- 1. The battle happened in 1897 between the British Indian contingent and the Afghans Tribesmen.
- 2. Sikh soldiers were led by Gurmukh Singh.

#### 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

#### **Correct Answer: A**

#### **Explanation:**

September 12 marks the 124th anniversary of the Battle of Saragarhi that has inspired a host of armies, books and films, both at home and abroad.

#### About Battle of Saragarhi

**The Battle of Saragarhi** is considered as one of the finest last stands in the military history of the world.

The battle happened in 1897 between the **British Indian contingent** comprising 21 Sikh soldiers of the 36th Sikhs (now known as Indian Army's 4th Battalion) who were stationed at Saragarhi **and** 10,000 to 12,000 **Afghans Tribesmen**. (**Statement 1** is **correct**)

Though heavily outnumbered, the 21 Sikh soldiers led by **Havildar Ishar Singh** managed to hold the Saragarhi tower for seven hours till their last breath, killing 200 tribals and injuring 600. (**Statement 2 is incorrect**)

Source: Battle of Saragarhi explained: When 21 men fought thousands

#### Q.2) With reference to Subramaniya Bharati, consider the following statements:

- 1. He published the weekly journal "**India**", which was the first paper in Tamil Nadu to publish political cartoons.
- 2. He was the supporter of caste system.

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

#### **Correct Answer A**

#### **Explanation:**

**Statement 1 is correct**: He began his career as a journalist and as a sub-editor in "Swadesamitran" in 1904. He edited and published the weekly journal "India", which was the first paper in Tamil Nadu to publish political cartoons. He also published and edited a few other journals like "Vijaya".

**Statement 2 is incorrect**: He was against the caste system. He declared that there were only two castes-men and women and nothing more than that.

Q.3) With reference to Raja Mahendra Pratap Singh, consider the following statements:

- 1. He established Provisional Government of India at Bagh-e-Babur in Kabul in the middle of World War I in 1915.
- 2. He was awarded with the Nobel Peace Prize.

### 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

#### **Correct Answer A**

#### Explanation

**Statement 1 is correct:** He established a "**Provisional Government of India**" at Bagh-e-Babur in Kabul in the middle of World War I in 1915. He declared himself president and his fiery fellow revolutionary **Maulana Barkatullah** of Bhopal, prime minister, of the Provisional Government.

Statement 2 is incorrect: he was nominated for the 1932 Nobel Peace Prize.

**Source: Indian Express** 



#### **Economy**

# Q.1) Which of the following are the challenges associated with Legalizing Crypto currencies in India?

- 1. Safety and security of cryptocurrencies.
- 2. Volatility of cryptocurrency.
- 3. High investor protection.
- 4. Non-regulation of Cryptocurrency.

#### Which of the statements given above is/are correct?

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

# Correct Answer: B

#### Explanation:

- 1. **Safety and security of cryptocurrencies:** This is one of the key issues with cryptocurrency. **Mt Gox bankruptcy case** is a highlight of this. Mt gox is a Tokyo-based cryptocurrency exchange. After the cyberattack, several thousands of bitcoin went lost and the company is yet to settle the claim. **(Statement 1 is correct)**
- 2. **No investor protection:** Since the cryptocurrency transactions are anonymous in nature, there is no investor/consumer protection in cryptocurrencies. (Statement 3 is incorrect)
- 3. **Conflict of interest:** Globally, crypto-currency exchanges act as both custodian and a regulator. So, their own interest and consumer protection get into conflict.
- 4. **Non-regulation:** There are some cryptocurrency regulators who often indulge in money laundering and terrorism financing. Further, they are immune to the Central Bank regulation of various countries. **(Statement 4 is correct)**
- 5. **The volatility of cryptocurrency:** Many cryptocurrencies have only a limited amount of coins. For example, Bitcoins fixed the maximum possible number as 21 million. This creates an increase in demand with each passing day and creates instability in exchange rates. This made the cryptocurrency more volatile in nature. **(Statement 2 is correct)**

Source: There's a major new risk in town and it's called crypto

#### Q.2) With reference to PUSA Decomposer, Consider the following statements:

- 1. It will convert paddy stubble into bio-manure.
- 2. It consists of a bacteria-based liquid solution.

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

# Correct Answer: A

# Explanation:

- Pusa Decomposer is a low-cost capsule that can convert paddy stubble into biomanure. (Statement 1 is correct)
- The capsule consists of a fungi-based solution that can soften hard stubble to the extent that it can be easily mixed with soil in the field to act as compost. (Statement 2 is incorrect)
- **Developed by:** Pusa Decomposer Technology has been developed by ICAR Indian Agriculture Research Institute (IARI), New Delhi.

Source: Centre should direct States to use bio-decomposer: CM

#### **Q.3)** With reference to **Bad Banks**, Consider the following statements:

- 1. A bad bank is an asset reconstruction company (ARC), involved in management and recovery of bad loans or NPAs of other banks.
- 2. Sunil Mehta panel on NPA's (Non-Performing Assets) propose to establish bad banks in India.

#### 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

#### Correct Answer: C

#### Explanation:

Recently, The Union Government has approved a proposal that requires the government to guarantee Security Receipts(SR) issued by National Asset Reconstruction Company Ltd (NARCL) when buying non-performing assets (NPAs) from banks. This will clear the path for the launch of National Asset Reconstruction Company (NARCL). The NARCL is a type of Bad Bank that has to be set up to resolve the problem of bad loans impacting the public sector banks.

#### **About Bad Bank**

A bad bank is an asset reconstruction company (ARC), involved in management and recovery of bad loans or NPAs of other banks. (Statement 1 is correct)

Generally, these Banks are initially funded by the government and gradually, banks and other investors start to co-invest in them.

#### Concept of Bad bank in India

- The idea gained momentum when the RBI held asset quality review (AQR) found several banks showing a healthy balance sheet but have suppressed or hidden bad loans.
- Sunil Mehta panel on NPA's (Non-Performing Assets) proposed Sashakt India Asset Management company, (a bad bank) for resolving large bad loans in 2018. (Statement 2 is correct)

Source: Union Cabinet clears decks for National Asset Reconstructio Company

# Q.4) Which of the following is/are benefits of a T+1 settlement cycle introduced by SEBI?

- 1. Frees up capital for risk collateralization
- 2. Provides liquidity to investors

3. Decreases unsettled exposure to clearing corporation

#### Select the correct answer from the codes given below:

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

#### Correct Answer: d

#### **Explanation:**

#### All statements are correct.

• T+1 means **settlements will have to be cleared within one day** after the actual transaction takes place. This means the trades executed on Monday gets settled on Tuesday, the next working day.

#### What are the benefits of T+1 Settlement?

- Firstly, a shortened cycle not only reduces settlement time but also reduces and frees up the capital required to collateralise that risk.
- Secondly, it will provide liquidity to the investors as they get their funds for the shares sold/ credited to their account earlier.
- Thirdly, it reduces the number of outstanding unsettled trades at any instant, and thus decreases the unsettled exposure to Clearing Corporation by 50%.
- Lastly, a shortened settlement cycle will also help in reducing systemic risk.

Source: Article

# Q.5) With reference to Digital Communications Commission, consider the following statements:

- 1. It is responsible for preparing the budget for the Department of Telecommunications for each financial year.
- 2. It is a statutory body.

#### Which of the statements given above is/are incorrect?

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

#### **Correct Answer: B**

#### **Explanation:**

- **Statement 1 is correct**: One of the functions of Digital Communications Commission is the preparation of the budget for the Department of Telecommunications for each financial year and getting it approved by the Government.
- **Statement 2 is incorrect**: Commission was established by a resolution, not by an act. Hence, it's not a statutory body.

- **Q.6) 'Taper Tantrum'** was recently seen in news. Which of the following statements correctly explains the term?
- a) It is the process in economy to remove inefficient firms by favoring best performers.
- b) It is a concept used by Big Techs to reduce the competition by buying smaller firms.

- c) It is the outcome of US Federal Reserve's decision to reduce its quantum of a bond-buying programme that led to a sudden sell-off in global bonds and stocks.
- d) It is the term that is used to define the imposition of climate finance on developing countries by developed countries.

# Correct Answer: C

### Explanation:

After the 2007-2009 global financial crisis and recession, the US Federal Reserve started a bond-buying programme (known as quantitative easing) to infuse liquidity. With these funds, the investors started investing in global bonds and stocks.

In 2013, the US Federal Reserve decided to reduce (taper) its quantum of a bond-buying programme that led to a sudden sell-off in global bonds and stocks.

As a result, many emerging market economies, that received large capital inflows, suffered currency depreciation and outflows of capital. This is called globally as a 'taper tantrum'.

Source: BRICS: 2021 vs 2013: About Taper Tantrum and Economy of BRICS nations

- **Q.7)** With reference to Unified Farmer Service Platform (UFSP), Consider the following statements:
- 1. It is a combination of Core Infrastructure, Data, Applications and Tools that enable seamless interoperability of various public and private IT systems in the agriculture ecosystem.
- 2. It will act as a central agency in the agri ecosystem like UPI in the e Payments.

#### 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

# Correct Answer: C

# Explanation:

Unified Farmer Service Platform (UFSP) is a combination of Core Infrastructure, Data, Applications and Tools that enable seamless interoperability of various public and private IT systems in the agriculture ecosystem across the country. (**Statement 1 is correct**) UFSP is envisaged to play the following role:

It will act as a central agency in the agri ecosystem (like UPI in the e Payments) (Statement 2 is correct)

The platform enables Registration of the Service Providers (public and private) and the Farmer Services.

The platform enforces various rules and validations required during the service delivery process.

The platform will act as a medium of data exchange amongst various schemes and services to enable comprehensive delivery of services to the farmer.

Source: Ministry of Agriculture and Farmers welfare signs 5 MOUs with private companies for taking forward Digital Agriculture

#### Q.8) With reference to Telecom sector reforms, consider the following statements:

- 1. 100% FDI is permitted under the automatic route.
- 2. Non-telecom revenue will be excluded on prospective basis from the definition of AGR.

Created with love ♥ by ForumIAS- the knowledge network for civil services. Visit academy.forumias.com for our mentor based courses.

#### 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

#### Correct Answer: C

#### **Explanation:**

#### Both statements are correct.

- I). Rationalization of Adjusted Gross Revenue: Non-telecom revenue will be excluded on prospective basis from the definition of AGR. To protect government revenues, companies availing of the moratorium will have to pay interest. This would be at the rate of marginal cost of funds-based lending rate (MCLR) plus 2%.
- ii). For auctions held henceforth, no Bank Guarantees (BGs) will be required to secure installment payments. Industry has matured and the past practice of BG is no longer required.
- **iii).** To encourage investment, **100% Foreign Direct Investment (FDI)** under automatic route permitted in Telecom Sector. All safeguards will apply. Currently, 100% FDI is allowed in the sector, but only 49% was on the automatic route, and any investment above that limit required government approval.

Source: Article

- Q.9) Consider the following pairs of PLI Schemes and their respective Ministries.
- PLI Scheme Concerned Department/Ministry
- 1. Automobiles & Auto Components Department of Heavy Industries
- 2. White Goods (ACs & LED) Ministry of New and Renewable Energy
- 3. Manufacturing of Medical Devices Ministry of Micro, Small and Medium Enterprises Which of the pairs given above is/are correctly matched?
- a) 1 and 2 only
- b) 3 only
- c) 1 and 3 only
- d) 1 only

#### **Correct Answer D**

#### Compilation:

Initially, the PLI Scheme focussed on three sectors.

Sl. No	PLI Scheme	Concerned Ministry/Department		
1	Mobile Manufacturing and Specified	Ministry of Electronics and		
1	Electronic Components	Information Technology (MeiTY).		
2	Critical Drug Intermediaries, Active	Department of Pharmaceuticals		
	Pharmaceutical Ingredients			
3	Manufacturing of Medical Devices	Department of Pharmaceuticals		

#### Later it was expanded to other sectors.

Sl. No	Notified PLI Schemes	Concerned 1	Minist	ry/Department	
1	Electronic/Technology Products	Ministry	of	Electronics	and
		Information Technology			

2	Pharmaceutical drugs	Department of Pharmaceuticals
3	Telecom & Networking Products	Department of Telecom
4	Food Products	Ministry of Food Processing
		Industries.
5	IW/ hite (foods IAUS & I.H.I.))	Department for Promotion of Industry
		and Internal Trade.
6	High-Efficiency Solar PV Modules	Ministry of New and Renewable
		Energy

Recently the scheme is expanded to the following sectors.

Sl. No	Other PLI Schemes	Concerned Ministry/Department	
1	Automobiles & Auto Components	Department of Heavy Industries	
2	Advance Chemistry Cell (ACC	NITI Aayog and Department of Heavy	
	<u>Battery</u>	Industries.	
3	Textile Products (MMF segment and technical textiles)	Ministry of Textiles	
	technical textiles)	withstry of Textiles	
4	Speciality Steel	Ministry of Steel	

Source: Cabinet clears PLI for auto sector to spur 'green', high-tech



#### **International Relations and Organisations**

# Q.1) Climate Action and Finance Mobilization Dialogue (CAFMD) was recently seen in news. It is the initiative of India and which of the following country?

- a) France
- b) The United Kingdom
- c) The United States of America
- d) Australia

#### Correct Answer: C

#### **Explanation:**

India and the United States of America (USA) have jointly launched the "Climate Action and Finance Mobilization Dialogue (CAFMD)".

#### About Climate Action and Finance Mobilization Dialogue (CAFMD):

CAFMD is one of the two tracks of the India-U.S. Climate and Clean Energy Agenda 2030 partnership launched at the Leaders' Summit on Climate in April 2021. It aims to help both the countries move towards decarbonising economies in sync with their respective commitments to deal with climate change.

Source: India and US launch the Climate Action and Finance Mobilization Dialogue (CAFMD)

**Q.2) Model 3 expressway** was recently seen in news. Which of the following correctly describes the term?

- a) It is a newly planned highway to connect India's North East with West Bengal through Bangladesh.
- b) It is a new technology that connects multiple platforms such as Broad band, mobile, DTH, etc in same platform.
- c) It is a new platform that connects all the India's website data in one high speed connection so that to improve data security.
- d) It is a single distributed ledger, capable of handling multiple currencies, and settling the claims.

### **Correct Answer: D**

#### **Explanation:**

Model 3 is a single distributed ledger, capable of handling multiple currencies, and settling the claims. It comes with inbuilt checks on money-laundering and a dedicated set of players jostling to offer foreign-exchange services at the best price.

Hong Kong and Thailand, together with China and the United Arab Emirates, are studying a bridging option for their digital currencies.

Once several such expressways are in place, banks' profit from opaquely priced currency conversions and fat fees may vanish from retail transfers.

Source: How banks can lose \$60 billion to cybercash highways

# **Q.3)** With reference to **Shanghai Cooperation Organisation**, consider the following statements:

- 1. It's a Eurasian political, economic and military organisation aiming to maintain peace, security and stability in the region
- 2. Kazakhstan, China, Kyrgyzstan, Russia and Tajikistan, Turkmenistan, India and Pakistan are the members of SCO.

Created with love ♥ by ForumIAS- the knowledge network for civil services. Visit academy.forumias.com for our mentor based courses.

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

#### **Correct Answer A**

#### **Explanation:**

**Statement 1 is correct:** The Shanghai Cooperation Organization (SCO) was established as a multilateral association to ensure security and maintain stability across the vast Eurasian region, join forces to counteract emerging challenges and threats, and enhance trade, as well as cultural and humanitarian cooperation.

**Statement 2 is incorrect:** The SCO currently comprises eight Member States (China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan).

Source: Article

Q.4) "Democracy Index" is released by which of the following Organizations?

- a) United Nations Environment Programme
- b) World Bank
- c) Economic Intelligence Unit
- d) Reporters without Borders

# Correct Answer: C

#### **Explanation:**

The Economist Intelligence Unit(EIU) has released the Democracy Index, 2020. In that, India dropped two places and currently at 53rd position.

The Indian government, however, challenged the report. The issue got highlighted when EIU refused to share the data based on which rankings were provided. After this, the Indian government is considering a parallel global democracy index formulated by Indian thinktanks.

Source: Indian Express

#### Q.5) With reference to World Press Freedom Index, Consider the following statements:

- 1. The index neither ranks public policies and nor is it an indicator of the quality of journalism in any country or region.
- 2. It has termed India as one of the most dangerous countries for journalists trying to do their jobs properly.
- 3. The report is released by Sweden-based Varieties of Democracy (V-Dem).

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

# Correct Answer: A Explanation:

The purpose of the Index is to rank 180 countries and regions according to the level of freedom available to journalists. But the index neither ranks public policies and nor is it an indicator of the quality of journalism in each country or region. (**Statement 1 is correct**)

According to the report, India is termed as one of the most dangerous countries for journalists trying to do their jobs properly. India continues to be counted among the countries classified "bad" for journalism. (Statement 2 is correct)

The report is published by Reporters Sans Frontieres (RSF) or Reporters Without Borders since 2002. (Statement 3 is incorrect)

Source: Instead of denying slide in democratic values, India must work to fix it

# Q.6) With reference to Organisation for Economic Co-operation and Development (OECD), consider the following statements:

- 1. Its goal is to shape policies that foster prosperity, equality, opportunity and well-being for all.
- 2. India is the member country of OECD.

#### 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

#### **Correct Answer: A**

#### **Explanation:**

**Statement 1 is correct:** The Organisation for Economic Co-operation and Development (OECD) is an international organisation that works to build better policies for better lives. Its goal is to shape policies that foster prosperity, equality, opportunity and well-being for all.

Statement 2 is incorrect: India isn't a member of OECD yet.

Source: Livemint

#### **Q.7)** With reference to "**AUKUS"** consider the following statements:

- 1. It is the military component of Quad grouping.
- 2. Under this nuclear ballistic missile will be provided to Australia.

#### 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

#### **Correct Answer D**

#### **Explanation:**

**Statement 1 is incorrect:** New Trilateral Security Partnership grouping has been formed between the **US**, **UK and Australia** (AUKUS) for the Indo-Pacific. It is not the military component of QUAD.

The aim of the grouping is to advance the strategic interests, uphold the international order and promote peace and stability in the Indo-Pacific region

**Statement 2 is incorrect:** USA is sharing the technology with Australia for nuclear submarines. No nuclear weapons will be supplied to Australia as per the deal.

Source: https://blog.forumias.com/us-uk-australia-form-new-partnership/



### Polity and Governance-Basics of Constitution-Languages

- **Q.1)** With reference to "**Indian Languages**" consider the following statements:
- 1. They are listed under the 7th Schedule of Indian constitution.
- 2. 21st, 71st and 92nd constitutional amendments are linked to the listing of languages in the Indian constitution.

#### 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

#### **Correct Answer B**

#### Explanation:

**Statement 1 is incorrect:** India presently has 22 languages specified under the Constitution's **eighth schedule**.

**Statement 2 is correct:** 21,71 and 92 constitution amendments are linked to listing of languages in Indian constitution.

- **Sindhi** language was added by the 21st Amendment Act of 1967.
- Konkani, Manipuri, and Nepali were included by the 71st Amendment Act of 1992.
- Bodo, Dogri, Maithili, and Santhali were added by 92nd Amendment Act of 2003.

Source: Bhashas & Bharat: The current language policy is wise, born out of pragmatism. We can't afford linguistic extremism

