

# 19 Feb 2023: UPSC Exam Comprehensive News Analysis



Be the change that you wish  
to see in the world

- Mahatma Gandhi



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## A. GS 1 Related

*Nothing here for today!!!*

## B. GS 2 Related

### Category: SOCIAL JUSTICE

#### 1. Environmental Surveillance For Avian Influenza

*Syllabus: Issues Relating to Health*

*Mains: Potential Threats of Avian Influenza on Human Health*

**Context:** This article discusses the need for effective environmental surveillance for avian influenza.

#### **Introduction:**

- The UK faced one of its largest ever outbreaks of [avian influenza \(H5N1\)](#), with cases found around Scotland including a recent outbreak on the remote archipelago of St Kilda and on Bass Rock, the world's largest colony of northern gannets (one of Britain's largest sea birds).
- In India, the latest major avian flu outbreak in 2020-2021 swept through many States causing mass mortality of wild birds.
- Avian flu outbreaks coincide with the peak migratory season leading to post-outbreak surveillance and culling.
- However, recent evidence of outbreaks in the off-season suggests endemic transmission within the poultry sector.
- Unlike in Europe, poultry birds in India are not vaccinated against flu despite being the fastest egg producer in the world.

#### **Intra-mammal transmission:**

- In February 2023, Peru reported cases of H5N1 avian influenza in sea lions and a dolphin, and a lion dying from H5N1 in a zoo.
- The U.K. has also reported deaths of otters and foxes due to infection by H5N1 subtype.
- In the past, seals and other mammals, such as foxes, minks, ferrets and domestic cats, have been reported to be infected by H5N1 through contact with birds.
- Wildlife, including foxes, coyotes and raccoons, often scavenge on infected birds or consume infected bird carcasses.

- However, the only recorded incidents of intra-mammal transmission of the virus have been among mink bred in close quarters in captivity at a farm in Spain, which were reported recently in 2022.

### **Significance of Environmental Surveillance:**

- The farms with a diversity of animals or in the vicinity of nearby wetlands increases the potential for the viruses to undergo reassortment that can potentially generate more virulent strains—H5N1 or H7N9—which could then infect humans.
- Wastewater-based epidemiology or pathogen surveillance has become an integral component of environmental surveillance providing near real-time information on health and community exposure to pathogens.
- The transmission of the virus within these wild bird populations is dependent on fecal/oral transmission via contaminated water.
- Avian influenza viruses can remain viable for extended periods of time in surface water and carcasses, suggesting that lakes and wetlands can act as environmental reservoirs at variable temperatures for several months.
  - Birds infected with avian influenza virus shed large quantities of virus in their feces, saliva and nasal secretions for about a week.
  - Wild aquatic birds in the Orders *Anseriformes* and *Charadriiformes* are the primordial reservoir for the virus.
- Having a large-scale influenza A virus surveillance network in place across multiple sites is crucial for improving our understanding on the diversity, seasonal and geographical distributions of the virus in environments associated with poultry and wild birds.
- Therefore, we need an active and passive year-round surveillance network under One Health which connects monitoring of humans and animals in a shared environment
- Currently, virus surveillance is reactive and relies on sampling dead birds. Environmental surveillance would be a great non-invasive tool that can be done without disturbing the birds and can be used to obtain both host and viral genetic material.
- Environmental surveillance should be complemented with effective carcass collection and testing, and better biosecurity on poultry farms to improve preparedness and response in the future.

**Nut Graf:** *The recent findings of transmission of H5N1 between mammals raise concerns on the potential for H5N1 to cause a pandemic in humans if it were to spill over and become transmissible among humans. This has brought the concerns on the lack of active surveillance to the forefront, and how wetland and waterfowl habitats at the interface of poultry need to be monitored.*

## Category: GOVERNANCE

### 1. Rural Tourism

*Syllabus: Development Processes & the Development Industry*

*Mains: Potential of rural tourism in India*

**Context:** The Union Tourism Minister launched several important initiatives for tourism promotion.

#### **Introduction:**

- The Union Tourism Minister launched ‘Best Tourism Village Competition Portal’, Global Tourism Investor Summit 2023 Portal and Rural Tourism Portal on February 16, 2023 to promote tourism in the country.
- The Ministry of Tourism is also organising 1st Global Tourism Investors’ Summit in May 2023 to showcase investible projects and opportunities in the tourism and hospitality sector in India to domestic and international investors.
  - This is being organised in the backdrop of India’s G20 Presidency as well as grand celebrations of India@75 Azadi ka Amrit Mahotsav.
- India is also observing ‘Visit India Year 2023’ in order to develop tourism in mission mode.
  - It highlights India’s commitment to sustainable & rural tourism and propels India as a seamless, modern and smart tourism destination.

#### **Rural Tourism:**

- The Central nodal agency, Rural Tourism and Rural Homestays, the coordinating body among the Centre, the States and other stakeholders, has identified six niche experiences for tourists wanting to visit rural India, including agritourism, art and culture, ecotourism, wildlife, tribal tourism, and homestays.
- It has identified more than 134 villages, each of which provides a set of unique experiences to tourists.
  - For Instance, Mattur is a village in Karnataka where residents speak only in Sanskrit. Maachli in Maharashtra is an agrarian homestay surrounded by coconut, betel, and banana plantations. The Bishnoi village in Rajasthan has frequent visits from the endangered great Indian bustard. Nagaland’s Konyak Tea retreat takes visitors on a trip through tribal culture; Telangana’s Pochampalli village showcases its traditional weaving techniques; and Himachal Pradesh’s Pragpur village plunges visitors into Kangra heritage architecture.

- Depending on the experience, tourists can sample the local cuisine, see how crops are grown, participate in textile weaving, witness folk art being practised, and go on nature trails, all the while living within the community.

**Significance of Rural Tourism:**

- Rural tourism focuses on sustainability, avoiding large-scale infrastructure development, and without much private sector participation.
- Local resources and communities are involved to provide a unique organic experience.
- The U.S.-based market research firm Grand View Research estimates that agritourism alone will develop at a compound annual growth rate (CAGR) of 11.4% from 2022 to 2030.
- It will help redevelop rural areas and rejuvenate rural life, create jobs and new business opportunities.
  - The Ministry of Rural Development is also exploring the possibility of creating assets under the MGNREGS for tourist infrastructure.
  - Exploring organic agriculture areas developed under the Paramparagat Krishi Vikas Yojana (PKVY) and Mission Organic Value Chain Development in North East Region (MOVCD-NER) for development as rural tourist spots will encourage organic farming and its awareness.
- Rural tourism can revitalise local art and crafts and prevent viable traditional occupations from being displaced.

**Nut Graf:** Government in promoting and developing the tourism sector in the country with focus on connectivity, civic infrastructure, tourist amenities and soft infrastructure. It is focusing on rural tourism for sustainable and responsible growth of the tourism sector in the country.

## C. GS 3 Related

### Category: SECURITY

#### 1. Indo-Tibetan Border Police

*Syllabus: Various Security Forces & Agencies & Their Mandate*

**Context:** Cabinet Committee on Security (CCS) recently approved raising seven new battalions of ITBP.

#### Introduction:

- India and China share one of the longest borders in the world, stretching over 3,488 kilometres, touching five Indian states, and two Chinese autonomous regions.
- Recently, tensions between the two countries have escalated with both sides accusing each other of violating the Line of Actual Control (LAC).
- In May 2020, Chinese troops intruded into Indian territory in the Galwan Valley, leading to a violent clash that resulted in the death of 20 Indian soldiers and an unknown number of Chinese soldiers.
- Since then, tensions between the two countries have escalated. India has accused China of increasing its troop presence in the region, building military infrastructure, and violating the status quo. China, on the other hand, has accused India of crossing the LAC and interfering with its territorial sovereignty.
- In February 2021, both sides agreed to a complete disengagement from the Pangong Tso area, but the process was halted due to disagreements over the timing and sequence of the withdrawal.
- In April 2021, tensions between the two countries escalated again when China accused India of crossing the LAC and firing warning shots in the air.
- The incident led to a military buildup on both sides, with both countries increasing their troop presence in the region.

#### **Role of ITBP in LAC:**

- The Indo-Tibetan Border Police (ITBP) is a specialised paramilitary force that is responsible for guarding India's borders with Tibet and China.
- The ITBP was created on October 24, 1962, in the wake of the Chinese aggression of 1962.
- On February 15 2023, the Cabinet Committee on Security (CCS) approved raising seven new battalions, comprising 9,400 personnel, for deployment in Arunachal Pradesh.
  - The outposts were sanctioned in January 2020. A sector headquarter for the ITBP was also announced.
- The battalions are expected to be raised by 2025-26, increasing the strength of the ITBP from the current 88,000 to 97,000, making it the fourth largest CAPF.
- The ITBP is primarily responsible for guarding one of the most difficult and inhospitable terrains in the world, and the ITBP personnel face several challenges in performing their duties.
  - The terrain is rugged and rocky, and the climate is harsh, with temperatures dropping to as low as -50 degrees Celsius in winter. The high altitude also makes it difficult for the ITBP personnel to breathe, and they need to undergo special training to acclimatise to the conditions.

- The ITBP personnel are trained in several skills, including mountaineering, skiing, and rock climbing, which are essential for patrolling and guarding the difficult terrain of the Indo-China border.
- They are also trained in combat skills, including unarmed combat, marksmanship, and tactical operations, which are necessary for countering any hostile action by Chinese troops.
- The ITBP has around 2,100 women personnel and a sizable number are deployed at the Border Out Posts (BOPs) in the Himalayas.
- The ITBP has been actively involved in several operations along the Indo-China border, including the Sino-Indian War of 1962, the Nathu La and Cho La incidents of 1967, the Doklam standoff of 2017, and the recent border tensions in Ladakh.
- The ITBP also has a specialised force called the Special Frontier Force (SFF), which is a covert force trained to carry out special operations behind enemy lines.
  - The SFF was created in the aftermath of the Chinese aggression of 1962 and played a crucial role in the 1971 war against Pakistan.
  - The SFF personnel are drawn from the Tibetan community and are trained in specialised skills, including guerrilla warfare, sabotage, and intelligence gathering.
- The ITBP personnel work in close coordination with other security forces, including the Indian Army, Border Security Force (BSF), and the local police.
- They also work with the local communities and engage in several developmental activities to improve the quality of life of the people living in the border areas.
  - These activities include the construction of schools, hospitals, and roads, and providing essential services like healthcare, education, and clean drinking water.
- The ITBP also plays a critical role in disaster management and rescue operations in the border areas.
  - The Himalayan region is prone to natural disasters like earthquakes, landslides, and floods, and the ITBP personnel are trained to respond to such emergencies.
- The ITBP also provides security to various sensitive installations and proximate security cover to important dignitaries.
- It offers security, communication and medical cover to the pilgrims during the Kailash Mansarovar Yatra in coordination with the Ministry of External Affairs at Lipulekh Pass (Uttarakhand) and Nathu La Pass (Sikkim border).

**Foreign deployment:**

- The force has been deployed in foreign countries as well. It provided security at the Indian High Commission in Colombo from 1988 to 2005.

- ITBP commandos were first deployed in Afghanistan in 2002 to secure the premises of the Indian Embassy in Kabul and four consulates in Jalalabad, Herat, Mazar-I-Sharif and Kandahar.
  - They were withdrawn from Afghanistan in August 2021 after the Indian Embassy shut following the takeover of the country by the Taliban.
- In 2004, ITBP personnel were deployed in Gurguri, Minar and Zaranj in Afghanistan to provide security cover to the Indian road construction agency Border Roads Organisation (BRO), which was undertaking the Delaram-Zaranj road project.
- With the LAC remaining tense after the Galwan and Yangtze incidents and India and China ramping up infrastructure in the border areas, the ITBP has come under greater focus.

***Nut Graf:** The ITBP's role in safeguarding India's border with China is critical, therefore the union government recently approved raising seven new battalions, comprising 9,400 personnel, for deployment in Arunachal Pradesh with a sector headquarter to provide the ITBP with all necessary support and resources to carry out its duties effectively.*

## D. GS 4 Related

*Nothing here for today!!!*

## E. Editorials

### Category: ECONOMY

#### 1. Stock Market Regulation in India

*Syllabus: Capital Market*

*Mains: Role of SEBI in promoting investor protection and market integrity.*

**Context:** The Supreme Court asks SEBI to submit a note detailing the legal and factual aspects of the existing regulatory framework for the securities market.

#### **Introduction:**

- On February 10, the Supreme Court asked the [Securities and Exchange Board of India \(SEBI\)](#) and the government to produce the existing regulatory framework in place to protect investors from share market volatility.



- Indian investors have reported to have lost several lakhs of crores in two weeks after the U.S.-based short-seller firm Hindenburg Research published a report, which led to sudden market volatility following a meltdown in the Adani Group shares.
  - Hindenburg Research report accused the Adani Group of stock market manipulation and accounting fraud.
- The court also allowed the SEBI to give a “threadbare analysis” of its powers and even suggest whether it needed to grow more teeth to deal with the “new world” of seamless capital movement.
- The court also opined the Union government could even consider constituting an expert committee of domain experts in banking and securities along with a former judge to act as a “wise guiding force”.

### **What are the laws governing the market?**

- The securities market in India is regulated by four key laws —
  - The Companies Act, 2013
  - The Securities and Exchange Board of India Act, 1992 (SEBI Act)
  - The Securities Contracts (Regulation) Act, 1956 (SCRA) and
  - The Depositories Act, 1996.
- The SEBI Act empowers SEBI to protect the interests of investors and to promote the development of the capital/securities market, besides regulating it.
- SEBI was given the power to register intermediaries like stock brokers, merchant bankers, portfolio managers and regulate their functioning by prescribing eligibility criteria, conditions to carry on activities and periodic inspections.
- It also has the power to impose penalties such as monetary penalties, including suspending or cancelling the registration.
- The SCRA empowers SEBI to recognise (and derecognise) stock exchanges, prescribe rules and bye laws for their functioning, and regulate trading, clearing and settlement on stock exchanges.
- The Depositories Act introduced and legitimised the concept of dematerialised securities being held in an electronic form.
  - Today almost all the listed securities are held in dematerialised form.
- The depository regulations empower SEBI to regulate functioning of depositories and depository participants by prescribing eligibility conditions, periodic inspections and powers to impose penalties including suspending or cancelling the registration as well as monetary penalties.

### **Guidelines on fund-raising:**

- The Companies Act has delegated the authority to enforce some of its provisions to SEBI, including the regulation of raising capital, corporate governance norms such as

periodic disclosures, board composition, oversight management and resolution of investor grievances.

- In order to regulate fund-raising activities, SEBI has issued Capital and Disclosure Requirement Regulations.
- SEBI notified the Listing Obligations and Disclosure Requirements Regulations in 2015 to ensure that listed companies followed corporate governance norms.
- The Collective Investment Regulations define a CIS (collective investment scheme) and provide for penal actions against those running unregistered CIS schemes.
- Entities involved in fund-raising through issues of capital such as merchant bankers are also regulated through specific regulations.

### **Regulation of stock exchanges:**

- The SCRA has empowered SEBI to recognise and regulate stock exchanges and commodity exchanges in India; this was earlier done by the Union government.
- The rules and regulations made by SEBI under the SCRA relate to listing of securities like equity shares, the functioning of stock exchanges including control over their management and administration.
  - These include powers to determine the manner in which a settlement is done on stock exchanges and recognising and regulating clearing corporations, which are central to the management of the trading system.
- The act also has the provision for arbitrating disputes that arise between stock brokers and investors.
- The Act also seeks to protect the interests of investors by creating an Investor Protection Fund for each stock exchange.

### **Safeguards against fraud:**

- SEBI notified the Prohibition of Fraudulent and Unfair Trade Practices Regulations in 1995 and the Prohibition of Insider Trading Regulations in 1992 to address market manipulation and insider trading.
- SEBI has been given powers of a civil court to summon persons, seize documents and records, attach bank accounts and property and to carry out investigations.
- SEBI has notified the Substantial Acquisition of Shares and Takeovers Regulations to ensure that acquisitions and change of management are done only after giving an opportunity to public shareholders to exit the company if they want to.
- SEBI ensures protection of investors' interests by regulating the listing and trading of equity shares and other securities, and by registering and regulating institutions handling public funds.

- Appeals against orders of SEBI and the stock exchanges can be made to the Securities Appellate Tribunal (SAT) comprising three members. Appeals from the SAT can be made to the Supreme Court.

***Nut Graf:** Financial Fraud undermines regulation and prevents a market from being fair and transparent. The Union government and SEBI have formed numerous laws and regulations to reflect the evolution and development of the capital market in India.*

## **Category: GOVERNANCE**

### **1. Polio Vaccine**

***Syllabus:** Government Policies & Interventions for Development*

***Mains:** Threats of global resurgence of polio on public health.*

**Context:** Additional polio vaccine dose introduced in West Bengal.

#### **Introduction:**

- An additional dose of injectable polio vaccine has been introduced in West Bengal as part of the [Universal Immunisation Programme \(UIP\)](#) for children in India.
- As per the announcement, additional dose will be given at nine months, in addition to the existing doses in the current UIP.
  - There were four oral doses and two injectable doses before the additional third dose was introduced in January 2023.
  - West Bengal is considered among high risk areas for polio.
- According to a noted virologist, an additional dose of inactivated poliovirus (IPV) at nine months is expected to protect against any Vaccine Associated Paralytic Polio or Vaccine Derived Polioviruses.

#### **What is Polio?**

- Polio is a crippling and potentially deadly viral infectious disease that affects the nervous system.
- There is no cure for polio, but there are safe, effective vaccines which, given multiple times, protect a child for life.

#### **How did India achieve its polio-free status?**

- Rotary International launched its polio eradication campaign, Polio Plus, in 1985, it was in 1986 that it provided a \$2.6 million grant to Tamil Nadu for a pilot polio vaccination campaign.

- In 1995, the Union government announced the first National Polio Immunisation Day.
- In 2012, the World Health Organisation removed India from the list of endemic countries.
  - The last case of poliovirus type 2 was recorded in India in October 1999 at Aligarh, Uttar Pradesh.
  - The last case of poliovirus type 3 was on October 22, 2010, at Pakur, Jharkhand.
  - The last case of poliovirus type 1 was recorded on January 13, 2011, at Howrah, West Bengal.
- To prevent the virus from coming to India, the government since March 2014, has made the Oral Polio Vaccination (OPV) mandatory for those travelling between India and polio-affected countries, such as Afghanistan, Nigeria, Pakistan, Ethiopia, Kenya, Somalia, Syria and Cameroon.

### Recent Global Polio Crisis:

- As of October 2022, only two countries worldwide remain with indigenous transmission of wild poliovirus type 1 (WPV1) — Afghanistan and Pakistan.
- WHO recorded that so far, 33 countries have outbreaks of variant polioviruses, such as in the U.K., the U.S., Israel and Malawi.
- Genetic variants of vaccine poliovirus type 2, imported from an unknown source, were detected in waste waters in Jerusalem, London and New York in early 2022.
- As an unintended consequence, type 2 vaccine virus variants (circulating vaccine-derived polioviruses) that mimic wild viruses' contagiousness and neurovirulence, have been emerging and spreading.
- COVID-19 temporarily halted the Global Polio Eradication Initiative (GPEI)'s immunisation campaigns, putting over 80 million children at risk.
- Consequently, outbreaks of circulating vaccine-derived poliovirus (cVDPV) tripled from 2019 to 2020, with over 1100 children paralysed.
- WHO also expressed concerns about the potential spread of polio in Ukraine as Russian invasion disrupts vaccine programmes and the mass movement of people escaping the fighting presents a risk.

**Nut Graf:** Covid 19 pandemic have shown how rapidly global progress can unwind if the pressure is not maintained to vaccinate children. A global resurgence of polio would be disastrous on public health. Therefore, the West Bengal government announced the introduction of an additional dose of injectable polio vaccine.

## F. Prelims Facts

### 1. Cheetahs in India

**Syllabus: GS03-Environment**

***Prelims: Cheetah; Extinct Species***

**Context:** Cheetahs from South Africa enter quarantine in Kuno National Park

**Key Details:**

- Twelve [cheetahs](#) arrived from South Africa were released into the quarantine enclosures at the Kuno National Park, Madhya Pradesh.
- The inter-continental translocation of cheetahs is part of the Union government's programme to reintroduce these animals seven decades after they became extinct in the country.
  - India's last cheetah died in Koriya district of present-day Chhattisgarh in 1947, and the species was declared extinct in 1952.
- With the addition of 12 Cheetahs, the cheetah count at the park has gone up to 20 (10 male and 10 female Cheetahs)
  - Prime Minister Narendra Modi released eight felines from Namibia on September 17, 2022.

**2. Rhododendrons*****Syllabus: GS03-Conservation***

**Context:** Botanical Survey of India publication on rhododendrons.

**Key Details:**

- Latest publication of the Botanical Survey of India (BSI) reveals that the Darjeeling and Sikkim Himalayas are home to more than one-third of all types of rhododendrons found in India.
- The publication lists 45 taxa of rhododendrons ( 24 are found in the Darjeeling Himalayas and 44 in the Sikkim Himalayas).
- The two famous Rhododendron sanctuaries in the Sikkim State are Barsey Rhododendron Sanctuary in the West district, covering an area of 104 sq.km and Shingba Rhododendron Sanctuary in Yumthang valley of North district with an area of 43 sq.km.
- Of the 45 taxa documented by the BSI, five are facing a high threat due to anthropological pressures and climate change.
  - Rhododendron edgeworthii, recorded a huge habitat decline in both Darjeeling and Sikkim.
  - Rhododendron niveum, found in north Sikkim is facing threats from rampant construction.
  - Rhododendron baileyi, Rhododendron lindleyi and Rhododendron maddenii are also under threat.

- Rhododendron is considered an indicator species for climate change.
  - The flowering season for rhododendrons starts in March and continues till May. However, recently, flowering was found to begin as early as in January for some species indicating the warming of these areas.
- Rhododendrons are used in local medicines against colds, coughs and chronic bronchitis and diarrhoea.
- There are 132 taxa (80 species, 25 subspecies and 27 varieties) of rhododendrons found in India.
- Arunachal Pradesh is home to the highest number with 119 taxa (74 species, 21 subspecies and 24 varieties) of the Rhododendron.
- The species has been designated as the State tree of Uttarakhand and its blooming in the Garhwal Himalayas is celebrated as 'Phool Sankranti', a festival of flowers.
- Cold, moist slopes and deep valleys of the eastern Himalayas form a conducive habitat for the luxuriant growth of Rhododendron species.

#### **The history:**

- Rhododendrons were first recorded by Captain Hardwick in Jammu and Kashmir in 1776 where he spotted the Rhododendron arboreum.
- The first species of Rhododendron from northeast India — Rhododendron dalhousiae — was reported from Sikkim by British botanist Joseph D. Hooker in 1848 in his book 'The Rhododendrons of Sikkim Himalaya'.

## **G. Tidbits**

### **1. National Land Monetisation Corporation (NLMC)**

- The National Land Monetisation Corporation (NLMC) has decided to utilise international property consultancy firms to help strategise and implement transactions from start to finish and expedite the monetisation plans for government-owned land assets across the country.
  - NLMC has now invited proposals from international property consultancy firms (IPCs) or other firms engaged in transaction advisory services, asset monetisation or project monetisation.
- NLMC was announced in the 2021-22 Union Budget. It is steered by the Department of Public Enterprises to undertake monetisation of surplus land and building assets of central public sector enterprises (CPSEs) and other government agencies.

## H. UPSC Prelims Practice Questions

**Q1. With respect to Duchenne Muscular Dystrophy (DMD), which of the following statements is/are correct? (Level-Difficult)**

1. It is a genetic disorder characterised by progressive muscle degeneration and weakness
2. Duchenne is caused by a change in the dystrophin gene.
3. It primarily affects females.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**Answer: A**

**Explanation:**

- **Statement 01 is correct**, Duchenne muscular dystrophy (DMD) is a genetic disorder characterised by progressive muscle degeneration and weakness.
- **Statement 02 is correct**, It is caused by the alterations of a protein called dystrophin that helps keep muscle cells intact.
- **Statement 03 is incorrect**, DMD symptom onset is in early childhood, usually between ages 2 and 3. The disease primarily affects boys, but in rare cases it can affect girls.

**Q2. An underwater device that detects and records ocean sounds from all directions is (Level-Easy)**

- A. Anemometer
- B. Hydrometer
- C. Hydrophone
- D. Hygrometer

**Answer: C**

**Explanation:**

- A hydrophone is an underwater device that detects and records ocean sounds from all directions.
- Just as a microphone collects sound in the air, a hydrophone detects acoustic signals under the water.
- Most hydrophones are based on a special property of certain ceramics that produces a small electrical current when subjected to changes in underwater pressure. When submerged in the ocean, a ceramic hydrophone produces small-voltage signals over a

wide range of frequencies as it is exposed to underwater sounds emanating from any direction.

- By amplifying and recording these electrical signals, hydrophones measure ocean sounds with great precision.

**Q3. Which of the following statements is/are correct with respect to Rhododendrons? (Level-Medium)**

1. Rhododendrons are indicator species as far as climate change is concerned
2. It is the State Tree of Uttarakhand
3. Rhododendrons are evergreen but some are deciduous.

Options:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

**Answer: D**

**Explanation:**

- **Statement 01 is correct**, Rhododendrons are prominent indicators of climate change- as their blooms correspond to the changing of the seasons.
- **Statement 02 is correct**, The species has been designated as the State tree of Uttarakhand and its blooming in the Garhwal Himalayas is celebrated as 'Phool Sankranti', a festival of flowers.
- **Statement 03 is correct**, Rhododendrons range in habit from evergreen to deciduous and from low-growing ground covers to tall trees.

**Q4. Consider the following statements with respect to Aubrite meteorites: (Level-Difficult)**

1. They are coarse-grained igneous rocks formed under extremely reducing conditions or by little or no free oxygen
2. They contain a variety of exotic minerals not found on Earth

Which of the following statements is/are correct?

- A. 1 only
- B. 2 only
- C. Both
- D. None

**Answer: C**



**Explanation:**

- **Statement 01 is correct**, Aubrites are rare meteorites originating from an extremely reduced differentiated parent body in the solar system. They are rare meteorites originating from an extremely reduced differentiated parent body in the solar system.
- **Statement 02 is correct**, They contain a variety of exotic minerals not found on Earth.

**Q5. Consider the following statements: (PYQ-CSE-2007) (Level-Medium)**

1. North Atlantic Cooperation Council (NACC) is the name of the new organisation which has replaced the North Atlantic Treaty Organization (NATO).
2. The United States of America and the United Kingdom became the members of NATO when it was formed in 1949.

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

**Answer: B**

**Explanation:**

- **Statement 01 is incorrect**, The North Atlantic Cooperation Council (NACC) was established by the Allies in December 1991 as a forum for dialogue and cooperation with [NATO](#)'s former Warsaw Pact adversaries. The NACC was succeeded by the Euro-Atlantic Partnership Council in 1997.
- **Statement 02 is correct**, The United States of America and the United Kingdom were two of the founding members of NATO.
  - Other founding members include Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal.

## I. UPSC Mains Practice Questions

1. [Discuss the potential of rural tourism in India. What measures and precautions should be taken to promote rural tourism?](#) (250 words; 15 marks)(GS-2; Governance)
2. [With SEBI, India has a robust regulatory body in place to handle any volatility in the stock market. Do you agree? Elaborate.](#) (250 words; 15 marks) (GS-3; Economy)