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Current Affairs - 18 November 2024

DELHI'S AQI TURNS SEVERE PLUS, GRAP STAGE IV RULES KICK IN

Air Quality Index (AQI)

- AQI was launched in October 2014 to disseminate information on air quality in an easily understandable form for the general public.
- The measurement of air quality is based on eight pollutants, namely, PM10, PM2.5, NO2, SO2, CO, O3, NH3, and Pb
- The AQI transforms complex air quality data of various pollutants into a single number for ease of understanding.

AIR QUALITY INDEX		
▶ AQI scheme reflects 'one colour one code' for different types of air quality (good, satisfactory, moderate, poor, very poor and severe)		▶ Index can be accessed from websites of Union environment ministry or respective state pollution control boards.
WHAT HAPPENS WHEN AQI LEVELS TURN FOUL		
0-50	Good	Minimal impact
50-100	Satisfactory	Minor breathing discomfort to sensitive people
100-200	Moderate	Breathing discomfort to people with lungs, asthma and heart diseases
200-300	Poor	Breathing discomfort to most people on prolonged exposure
300-400	Very Poor	Respiratory illness on prolonged exposure
>400	Severe	Affects healthy people and seriously impacts those with existing diseases

Commission for Air Quality Management (CAQM)

- CAQM is a statutory body formed under the Commission for Air Quality Management in National Capital Region and Adjoining Areas, Act 2021.
- The commission aims at better coordination, research, identification, and resolution of problems related to air quality in NCR and adjoining areas.

Graded Response Action Plan

- GRAP is a set of emergency measures that kick in to prevent further deterioration of air quality once it reaches a certain threshold in the Delhi-NCR region.
- It was approved by the Supreme Court in 2016 and notified in 2017.
 - The plan was formulated after several meetings between Environment Pollution (Prevention and Control) Authority (EPCA), state government and experts.
- GRAP works only as an emergency measure.
- **Grap-I (AQI 201-300):** Advisories, dust control, and bans on open burning.
- **Grap-II (AQI 301-400):** Diesel generator restrictions, enhanced cleaning, and road sprinkling.

Current Affairs - 18 November 2024

- **Grp-III (AQI 401-450):** Non-essential construction bans, vehicle entry restrictions, and curbs on industrial activity.
- **Grp-IV (AQI above 450):** Complete construction halts, school closures, and stringent vehicle limitations.

What is banned under Grap Stage IV?

- Entry of non-essential trucks and non-BS-VI light commercial vehicles into Delhi is prohibited.
 - Diesel-operated medium and heavy goods vehicles (BS-IV and older) are barred, except those carrying essential items.
 - All construction and demolition activities for public infrastructure projects, such as roads, highways, flyovers, and power lines, are suspended.
 - The order prohibits entry of trucks into Delhi unless they are carrying essential goods or operating on clean fuels.
 - Non-essential light commercial vehicles registered outside Delhi are also barred, except for those running on electric, CNG, or BS-VI diesel engines.
 - The panel suggested that offices in the National Capital Region operate at 50 per cent capacity, with the remainder working from home.
 - Work-from-home options may also be implemented for central government employees.
 - State governments have been advised to consider closing colleges, restricting non-essential commercial activities, and introducing odd-even vehicle rules.
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TSUNAMI READY RECOGNITION PROGRAMME



- It is an international community-based recognition programme developed by **Intergovernmental Oceanographic Commission (IOC)** of UNESCO.



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Current Affairs - 18 November 2024

- **Aim:** It aims to build resilient communities through **awareness and preparedness strategies** that will protect life, livelihoods and property from tsunamis in different regions.
- The main goal of the Programme is to **improve coastal community preparedness** for tsunamis and to minimize the loss of life, livelihoods and property.
- This is achieved through a collaborative effort to meet a standard level of tsunami preparedness through the fulfilment of a set of established indicators.
- To get this recognition communities must **meet all 12 indicators**, which cover Assessment, Preparedness, and Response, will be recognized as 'Tsunami Ready' by the UNESCO/IOC. The recognition is **renewable every four years**.
- It is implemented as a **voluntary, performance-based community recognition programme** that promotes an understanding of the concept of readiness as an active collaboration among national and local warning and emergency management agencies, and government authorities, scientists, community leaders and the public.

What is a Tsunami?

- Tsunamis are **large waves generated by sudden movements** of the ocean floor that displace a large volume of water. These are usually associated with earthquakes
- A tsunami is a series of extremely long waves caused by a **large and sudden displacement of the ocean**, usually the result of an earthquake below or near the ocean floor. This force creates waves that radiate outward in all directions away from their source, sometimes crossing entire ocean basins.

LONG-RANGE HYPERSONIC MISSILE



- The missile can carry various payloads for **ranges greater than 1,500 km** for the Armed Forces.
- It has been **indigenously developed** by laboratories of the **Dr APJ Abdul Kalam Missile Complex, Hyderabad**, along with various other DRDO labs and industry partners.

Current Affairs - 18 November 2024

What are Hypersonic missiles?

- The term “Hypersonic” refers to a **speed at least five times** the speed of sound (also called Mach-5).
 - Another key feature of such missiles is manoeuvrability, setting them apart from a ballistic missile that follows a set course or trajectory.
 - **Hypersonic Cruise Missiles use scramjet engines** to sustain hypersonic speeds throughout their flight, flying at lower altitudes and also possessing manoeuvrability.
 - The two types of hypersonic weapons systems are **Hypersonic Glide Vehicles (HGV)** and **Hypersonic Cruise Missiles**.
 - The HGVs are launched from a rocket before gliding to the intended target while HCMs are powered by air-breathing high-speed engines or ‘scramjets’ after acquiring their target.
 - **Advantages of hypersonic missiles**
 - Hypersonic weapons can **enable responsive, long-range strike** options against distant, defended or time-critical threats (such as road-mobile missiles) when other forces are unavailable, denied access or not preferred.
 - Conventional hypersonic **weapons use only kinetic energy**, i.e. energy derived from motion, to destroy unhardened targets or even underground facilities.
 - They **fly at lower altitudes than ballistic missiles**, which means that they may be harder to track at long distances with some surface-based sensors, such as certain radar
 - Russia and China are believed to be ahead in developing hypersonic missiles while the US is developing a range of such weapons under an ambitious programme.
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KERALA SUSPENDS TWO IAS OFFICERS FOR MISCONDUCT

- **Allegation against N. Prashant:**
 - He is accused of making **derogatory statements on social media** against A. Jayathilak IAS, Additional Chief Secretary.
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Current Affairs - 18 November 2024

- The remarks were **deemed unbecoming of an officer and a violation of service discipline**, tarnishing the administrative machinery's public image.
- However, Prashant alleged that Jayathilak orchestrated baseless reports against him and denied the accusations.
- **Allegation against K. Gopalakrishnan:**
 - Accused of creating a **religion-based WhatsApp group** named 'Mallu Hindu Officers', **promoting disunity and communal formations** within the IAS cadre.
 - No evidence supported Gopalakrishnan's claim that his phone was hacked. A factory reset of the phone before police inquiry raised suspicions.

Conduct Rules for IAS Officers:

- **The All-India Services (Conduct) Rules 1968** set a code of conduct for IAS, IPS, and Indian Forest Service officers.
- **Relevant provisions include:**
 - **Ethics and integrity:** Officers must uphold high standards of **ethics, political neutrality, and constitutional values**.
 - **Social media use:** Officers can use public media to **discharge duties** but **must not criticise government policies**.
 - **General behaviour:** Actions considered unbecoming of a member of the service are prohibited.
 - **Legal recourse:** Officers need **government sanction to approach courts or the press** for vindication of official acts under criticism.

Conclusion:

- The suspensions of two IAS officers of Kerala cadre highlight the need for clearer and more specific conduct rules, especially regarding social media usage.
 - While maintaining **transparency is crucial, civil servants must balance responsible communication with professional anonymity** to safeguard their roles and the public image of the administrative machinery.
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Current Affairs - 18 November 2024

INDIA – NIGERIA BILATERAL RELATIONSHIP

- Nigeria conferred its second-highest national honour, the **Grand Commander of the Order of the Niger** (GCON), on Prime Minister Narendra Modi during his historic visit—the first by an Indian PM to Nigeria in 17 years.
- PM Modi highlighted the strategic partnership between the nations, focusing on collaboration in defense, energy, trade, technology, health, and education.
- The historical relationship between India and Nigeria dates back to the colonial era, with both countries sharing a common struggle against colonialism.
- Both nations have been members of the **Non-Aligned Movement** (NAM), advocating for a world free of geopolitical blocs during the Cold War era.

Bilateral Trade:

- Economic engagement is a cornerstone of India-Nigeria relations, with trade being a key driver.
- **Key Imports and Exports:**
 - **India's Imports from Nigeria:** Crude oil dominates, accounting for over 70% of India's imports from Nigeria. India is one of the largest buyers of Nigerian oil.
 - **India's Exports to Nigeria:** Pharmaceuticals, engineering goods, automobiles, agricultural machinery, and textiles are significant exports.
- **Investment:** Indian companies have invested in Nigeria's energy, manufacturing, and services sectors, contributing to local economic development. Prominent Indian firms such as Tata, Mahindra, and Bharti Airtel operate extensively in Nigeria.

Strategic Significance and Cooperation:

- **Energy Security:** Nigeria's status as Africa's largest oil producer is critical for India, a major energy consumer. The partnership ensures a stable supply of crude oil and natural gas.

Current Affairs - 18 November 2024

- **Defense and Security:** Both nations collaborate on counterterrorism, maritime security, and defense training programs. India's experience in defense manufacturing and Nigeria's strategic location in West Africa make this a mutually beneficial partnership.
- **Agriculture and Technology:** India supports Nigeria's efforts to modernize its agriculture and improve food security. Joint ventures in ICT and technology transfer further bolster Nigeria's industrialization.
- **Education and Capacity Building:** India has offered scholarships and technical training programs under the Indian Technical and Economic Cooperation (ITEC) initiative, strengthening Nigeria's human resource development.

Common Groupings and Multilateral Cooperation:

- India and Nigeria collaborate in several international and regional organizations:
 - **United Nations (UN):** Both nations advocate for reforms in global governance structures, including the UN Security Council.
 - **Commonwealth:** Shared membership promotes cultural and political exchanges.
 - **African Union (AU) and India-Africa Forum:** India's outreach to Africa finds resonance with Nigeria, a prominent player in the AU.
 - **South-South Cooperation:** India and Nigeria work together to promote development in Global South through platforms like BRICS (India) and the G-77.

Indian Diaspora in Nigeria:

- The Indian community in Nigeria, **numbering over 60,000**, plays a significant role in strengthening bilateral ties:
 - **Economic Contributions:** Indian expatriates are prominent in Nigeria's trade, industry, and healthcare sectors.
 - **Cultural Exchange:** The Indian diaspora has introduced cultural elements like cuisine, festivals, and Bollywood to Nigeria, fostering mutual appreciation and understanding.
 - **Healthcare Services:** Indian doctors and healthcare professionals have earned respect in Nigeria for their contributions to the medical field.
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Current Affairs - 18 November 2024

WHAT IS EPILEPSY?



National Epilepsy Day is marked every year in India on November 17 to raise awareness about the disease, the struggles associated with it, and the importance of early diagnosis and treatment.

- Epilepsy — also known as a **seizure disorder** — is a **chronic brain disorder** where **nerve cells don't signal properly**, that causes recurring seizures.
 - During a seizure, many neurons send signals at the same time, much faster than normal.
 - This **surge of excessive electrical activity** may cause **involuntary movements**, sensations, **emotions**, and/or **behaviors**.
 - The disturbance of normal nerve cell activity may cause a **loss of awareness**.
 - **Some people recover immediately** after a seizure, while **others may take minutes to hours** to feel like themselves again.
- **Causes:**
 - Epilepsy has many possible causes, but about **half of people** living with epilepsy **do not know the cause**.
 - In **some cases**, epilepsy is clearly **linked to genetic factors**, **developmental brain abnormalities**, **infection**, **traumatic brain injury (TBI)**, **stroke**, **brain tumors**, or other identifiable problems.
- **Treatment:**
 - Treatment with **medicines** or sometimes **surgery** can control seizures for most people with epilepsy.
 - **Some people require lifelong treatment**. For others, seizures go away.
 - Some children with epilepsy may outgrow the condition with age.



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Current Affairs - 18 November 2024

KING COBRA



- It is the world's **largest venomous snake** and an active hunter.
 - The main feature that distinguishes the king cobra from other cobras is the possession of 11 large scales on the crown of its head.
 - It preys almost exclusively on other snakes, prowling in forests, fields, and villages in the daytime as well as at night.
 - The amount of venom that they can deliver in a single bite is enough to kill 10 people or even an elephant.
 - The **neurotoxin venom** of king cobra affects the respiratory centres, causing respiratory arrest and cardiac failure.
 - The king cobras are the **only snakes in the world to build nests** that are 4 ft x 3 ft and the female king cobras are found ferociously guarding them.
 - The study identified four species of king cobra:
 - **Ophiophagus kaalinga**: Found in the **Western Ghats** of southwestern India, this species has fewer than 40 bands on its body.
 - **Ophiophagus hannah**: Inhabiting **northern and eastern India**, the Andaman Islands, eastern Pakistan, Indo-Burma, Indo-China, and Thailand, this species displays 50 to 70 bands.
 - **Ophiophagus bungarus**: Found in the **Malay Peninsula**, Greater Sunda Islands, and parts of southern Philippines, it features more than 70 bands.
 - **Ophiophagus salvatana**: Native to **Luzon in the northern Philippines**, this species lacks bands altogether.
 - **Conservation status**
 - **IUCN**: Vulnerable
 - **CITES**: Appendix II
 - **Threats**: Their survival is threatened by **habitat destruction** and exploitation for their skin, food, medicine, and the pet trade.
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