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GS 2 : Polity, Governance, International Relations

1. A moral test

Context:

With a year having passed after the World Health Organization declared COVID-19 a pandemic, UN Secretary-General António Guterres has criticised vaccine nationalism and hoarding in the world.

Issue:

- In spite of pressure by international organisations and efforts to pool resources in a way that all countries could at the earliest begin vaccinating at least a fraction of their most vulnerable population, several countries were unable to administer a single dose.
 - This was despite vaccines being stockpiled since November 2020.
- In Africa, only 13 countries have begun vaccinating. In contrast, over 10% of the U.S. population has been fully vaccinated, or got both doses, as has 3% of the EU.
- The percentages nearly double when accounting for their populations that have got at least one dose, reaching as high as 34% in the U.K.
- The U.S. contracted with many vaccine companies for several times the doses it needed. It was precisely this that had led to concerns of 'vaccine nationalism'.
- The pipeline of supply was largely dependent on India and China.
- The pharma companies are private entities bound by contracts to the highest bidders, and not necessarily the Indian government.

India's Vaccine Diplomacy:

- India is the third biggest vaccinator among countries.
- It has administered about 1.91 doses per 100 people.
- But it has fully vaccinated only 0.3% of its population.
- India has earned laurels for its vaccine diplomacy and Vaccine Maitri initiatives.

Shortcomings:

- Along with the global inequity in accessing vaccination, India is seeing a version of it play out since vaccinations began.
- There are several public health centres, villages and districts where no vaccines have been administered.
- India aims to inoculate at least 250 million with two doses from March-July – or over 3.3 million doses per day. But at best, India has administered 1.8 million doses per day.
- There is an apparent “class divide” with the rich and those better informed disproportionately getting vaccinated as compared to the poor.

Conclusion:

- While the reprieve is that more vaccines are in the pipeline, there will always be the concern that the poor, the old and the digitally naive will be left out.
- The UN and WHO must continue to exert pressure on the privileged nations to improve global availability as well as bear upon countries to improve equitable access within their territory too.

2. Bureaucrats cannot be State Election Commissioners: SC

Context:

The Supreme Court has held that independent persons and not bureaucrats should be appointed State Election Commissioners.

Details:

- The SC directed that the States should appoint independent persons as Election Commissioners all along the length and breadth of the country, stating that the independence of Election Commissions cannot be compromised.
- It stated that giving government employees the additional charge of State Election Commissioners is a mockery of the Constitution.
- Asserting that its directions be followed strictly, it called for the government employees holding the post of State Election Commissioners as an additional charge to give up the post.

State Election Commission:

- The State Election Commission (SEC) is vested with the superintendence, direction and control of the preparation of electoral rolls for, and the conduct of all elections to the Panchayats and the Municipalities.
- The State Election Commissioner is appointed by the Governor.

- However, the State Election Commissioners can only be removed by impeachment.
- State governments should abide by orders of the SECs during the conduct of the panchayat and municipal elections, just like they follow the instructions of the Election Commission (EC) during Assembly and Parliament polls.
- In other words, the SECs enjoy the same status as the EC.

3. Rajasthan Information Commission penalises five officials for negligence

Context:

The Rajasthan State Information Commission has imposed fines on government officials showing negligence in providing information under the Right to Information (RTI) Act.

Details:

- The Commission has laid emphasis on the display of information by the departments and local bodies on their own.
- The weekly review of work by the Chief Information Commissioner and penalisation orders have made an impact, ensuring compliance with the RTI Act.

State Information Commission:

- The State Information Commission (SIC) is a quasi-judicial body.
- Right to Information Act provides provisions for the creation of State Information Commission.

4. Quad leaders for 'open, free' Indo-Pacific

Context:

- Quad's (Quadrilateral Security Dialogue) first-ever leadership summit.
- The virtual summit was attended by Indian Prime Minister Narendra Modi, President Joe Biden of the United States, Japanese Prime Minister Yoshihide Suga and Australian Prime Minister Scott Morrison.

Key highlights of the Summit:

- Addressing the virtual summit, the QUAD leaders highlighted cooperation among the member countries to beat the global pandemic, with a joint partnership on vaccines.

- During the discussion, there was a wholesome appreciation of the **Vaccine Maitri initiative**.
 - The Quad members agreed to ensure equitable access to vaccines. The U.S., Japan and Australia will finance the vaccine initiative.
- The need for an open and free Indo-Pacific region was emphasised.
- It was highlighted that the Indo-Pacific region should be governed in accordance with human rights.
- The vaccine expert working group, a critical and emerging technology working group, and a climate working group for technology, capacity building and climate finance were cleared during the summit.

Note:

- In the backdrop of Quad's leadership summit, China has said cooperation between nations should not target or damage the interests of a third party and countries should not pursue exclusive blocs.
- The meet is being closely followed in China which has broadly framed it as a U.S.-led effort aimed at containing China.

5. Two bad options

The editorial talks about the two bad options that Afghanistan is presented with, where Afghanistan's leaders have to choose between war and sharing power with the Taliban.

Details:

- The global powers have ramped up efforts to secure a peace deal and end decades of war in Afghanistan.
- US President Joe Biden is pushing for an interim unity government in Afghanistan.
 - This indicates his desire to replace Mr. Ghani's government with an interim one that would include the Taliban's nominees.
- Also, the U.S. Secretary of State Antony Blinken has proposed a senior-level meeting between the Afghan government and the Taliban in Turkey and a multilateral conference of envoys from the U.S., Russia, China, Iran, India and Pakistan to discuss a lasting Afghan solution.

America's Afghan strategy:

- The peace push comes at a time when the Biden administration is reviewing the U.S.'s Afghan strategy.

- According to the February 2020 agreement signed between the Trump administration and the Taliban, the U.S. is scheduled to withdraw its troops by May 1, 2021.
- The Taliban have warned they would step up fighting targeting the coalition troops should the U.S. fail to pull out by then.
- The Biden administration is under pressure. The U.S. wants to get out of the longest war in its history. But the U.S. worries that if its troops are out without a peace mechanism, the Taliban, which already controls much of the country's hinterlands, could make rapid territorial gains.
- The U.S. seeks to stop this from happening by proposing an interim inclusive government between the warring parties.

Faults in Donald Trump's Strategy:

- Under Mr. Trump, the U.S. held direct talks with the Taliban excluding the Afghan government.
- After reaching a deal, the U.S. put pressure on the Afghan government to release prisoners, but failed to get any concessions from the insurgents on reducing violence.
- Even when Afghan government representatives and the Taliban were holding talks in Doha, Qatar, Afghanistan continued to witness violence.

Way Forward:

- Both sides (the government of Afghanistan and the Taliban) should hold talks on the future constitutional and governance framework.
- Regional powers, including India and Pakistan, could play a decisive role in this transition as part of a UN-mandated multiparty peace process. This is a more inclusive approach.
- The Biden administration does not seem to have faith in the Doha talks, which, even after months, failed to achieve any breakthrough.

Two bad options:

- After 20 years of war, the Afghan leadership does not have any good options to end the conflict.
- If the Biden administration decides to stick to the Taliban deal and pull back troops, there is no guarantee that the intra-Afghan talks would hold.
- The Taliban would rather try to take over the whole country using force.
- If the government accepts Mr. Biden's proposal, Afghanistan's elected leaders will have to share power with the Taliban and agree to amend the Constitution.

- This means some of the country's hard-won liberties could be sacrificed.
- For Afghanistan, it is a choice between two bad options.

6. Casting the Asian dice on a West Asia board

The multi-nation exercise hosted by the United Arab Emirates (UAE) named Desert Flag is scheduled from March 3rd to 27th, 2021.

Exercise Desert Flag:

- Other than India and the UAE, Bahrain, France, Saudi Arabia, South Korea and the United States are participating in the exercise.
- The exercise offers an interesting view for New Delhi of the various geopolitical intricacies at play in and around the West Asia region.

Current Situation in West Asia:

Complexities in West Asia:

- West Asia is home to some of the most complex security conundrums of modern times.
- The sixth edition of Desert Flag takes place in the backdrop of
 - Tensions between Iran and the U.S. at their peak.
 - The signing of the Abraham Accords between Israel, the UAE and Bahrain.
 - A more cordial and joint Arab-Israel dynamic predominantly designed to counter Iran's growing influence in the region, as seen through the wars in Syria and Yemen.

Links with Asia:

- The 2021 edition's involvement of contingents from India and South Korea showcases the growing interests of Asian economies.
- As net importers of crude oil, the Asian economies rely heavily on the West Asian states for their supplies.
- By association, Asian economies have increased stakes in the safety and security of the region from the perspective of political and economic stability.
- Asian economies have interests in the protection of vital sea lanes in areas such as the Strait of Hormuz, the Gulf of Aden and the Red Sea stretching out into the Arabian Sea and the wider Indian Ocean.

A fading U.S. hold:

- In April 2020, Saudi Arabia was India's top supplier of oil followed by Iraq.
- For South Korea, in late 2019, it was also Saudi Arabia as the top supplier as both New Delhi and Seoul hedged their bets and diversified, with Russia and the U.S. entering as strong alternatives.
- January 2021 marked the first time since 1985 that the U.S. did not import oil from Saudi Arabia.
- The participation of both India and South Korea in these exercises in the Persian Gulf is reflective of these trends and growing concerns in Asian capitals over an eroding U.S. security blanket in the region.

Iran and tensions:

- Amidst these realities, both India and South Korea have found themselves caught in regional tensions as the pressure on Iran to restart the 2015 nuclear agreement (Joint Comprehensive Plan of Action, or JCPOA) increases.
- Both India and South Korea have faced similar consequences over the past decade as the West first negotiated JCPOA with Iran, and later tried to manage the fallout of its collapse (when the US exited the deal).

India's involvement:

- India's security footprint in West Asia has seen a steady increase.
- Energy security and safe passage of sea routes are one of the main driving factors.
- The Indian Navy has made multiple port calls from the UAE and Kuwait to Iran and Qatar in recent years.
- In 2020, India had also planned its first bilateral naval exercise with Saudi Arabia, which was postponed due to the novel coronavirus pandemic.

Conclusion:

- The current situation where Asian nations are having to band together to protect their energy interests in West Asia is not new.
 - Former Indian diplomats have even suggested an idea equitable to an 'importers OPEC', or Organization of the Petroleum Exporting Countries, led by Asian states.
 - Asian countries have a much larger stake in West Asia's oil than the West.
- This trend of an increasing Asian security interest and footprint is expected to only magnify in the years to come.

7. Russia for Taliban's inclusion in Afghan interim govt.

Context:

Russia has said that it backs the Taliban's integration into a future interim government in Afghanistan.

Details:

- The Foreign Ministry's comments come as global powers have ramped up efforts to secure a peace deal and end decades of war.

Afghan Peace Talks:

- The US has encouraged the Afghan leadership to work towards establishing an inclusive government and proposed talks with the Taliban to secure a peace accord.
 - U.S. President Joe Biden is reviewing whether to stick to a deal with the Taliban negotiated by his predecessor Donald Trump, who wanted to pull out the U.S. troops from Afghanistan by May 2021.

Concerns:

- The U.S. withdrawal is being complicated by a new surge in fighting and concern that a speedy exit may only unleash further chaos.
- The US fears that the security situation will worsen and the Taliban could make rapid territorial gains if the U.S. suddenly withdrew.

8. Stop influx from Myanmar: Centre

Context:

The Ministry of Home Affairs (MHA) has written to the Chief Secretaries of Nagaland, Manipur, Mizoram and Arunachal Pradesh to take appropriate action as per law to check illegal influx from Myanmar into India.

Background:

- India and Myanmar share a 1,643-km border and people on either side have familial ties.
- People including policemen and women from Myanmar have fled to Mizoram fearing a military crackdown.

Details:

- The MHA directive comes as the military coup and subsequent crackdown in Myanmar has led to several persons crossing over into India.
- MHA said that the State governments had no powers to grant refugee status to any foreigner.
- It also reiterated that India is not a signatory to the United Nations Refugee Convention of 1951 and its 1967 Protocol.
- MHA has also issued an advisory to Chief Secretaries of Mizoram, Nagaland, Manipur and Arunachal Pradesh and also to the Border Guarding Force (BGF) along the India-Myanmar border to stay alert and take appropriate action to prevent a possible influx into Indian territory.
- Guidelines have been sent to states to sensitize the law enforcement and intelligence agencies for taking appropriate prompt steps for identifying illegal migrants, their restrictions to specific locations as per provisions of law, capturing their biographic and biometric particulars, cancellation of fake Indian documents and legal proceedings including initiation of deportation proceedings as per provisions of law.

GS 3 : Economy, Science and Technology, Environment

9. Bring down benzene emission at fuel outlets, says panel

What's in News?

A joint committee appointed by the National Green Tribunal (NGT) to study air pollution in Kerala has recommended the installation of vapour recovery system at fuelling stations and retrofitting of diesel vehicles with particulate filters to improve air quality.

- The report pointed out that petrol refuelling stations were a major source of benzene emissions, volatile organic compounds, and particulate matter 2.5 concentrations.
- Therefore, it suggested that the installation of vapour recovery system is an important step in improving air quality.

10. 'Centre to infuse 14,500 cr. into banks under PCA soon'

Context:

The Finance Ministry is likely to decide on the infusion of ₹14,500 crore mainly in banks that are under the RBI's prompt corrective action (PCA) framework, to improve their financial health.

Details:

- For the current financial year, the government had allocated ₹20,000 crore for capital infusion into PSBs to help them meet their regulatory requirements.
- The capital infusion will help these banks to come out of the RBI's enhanced regulatory supervision.
- Indian Overseas Bank, Central Bank of India and UCO Bank are currently under the PCA framework.
- PCA framework places several curbs, including on lending and management compensation.

Prompt Corrective Action (PCA) framework:

- Prompt Corrective Action (PCA) is a framework in which banks with weak financial records are placed under the supervision of the Reserve Bank of India.
- The Prompt Corrective Action framework deems banks as risky if they slip some trigger points - capital to risk weighted assets ratio (CRAR), net NPA, Return on Assets (RoA) and Tier 1 Leverage ratio.

Note:

Most large state-owned lenders like State Bank of India, Punjab National Bank, Bank of Baroda, Canara Bank, Union Bank of India and Indian Bank have already raised money from market sources, including share sale on a private placement basis.

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. LGBTIQ Freedom Zone in EU

Why in News

Recently, in response to the **backsliding of LGBTIQ rights in some EU countries, notably Poland and Hungary**, the **European Parliament** has declared the **European Union** an “**LGBTIQ Freedom Zone**”

- A majority of countries in the EU (23/27) recognise **same-sex unions**, with **16 legally recognising same-sex marriage**.
- **LGBTIQ** stands for **Lesbian, Gay, Bisexual, Transgender, Inter-sex and Queer**.

Key Points

- **Background:**
 - Same-sex relationships are **not legally recognised in Poland**, and the country already bans same-sex couples from adopting children together. However, as single people are permitted to adopt, some have managed to get around the ban by applying to adopt as single parents.
 - Now, Poland has come up with the proposal wherein a **person is liable to criminal offence** if he/she is found to be applying for adoption as a **single parent being in a same-sex relationship**.
 - LGBTIQ community in Poland is subject to **increased discrimination and attacks**, notably growing hate speech from **public authorities and elected officials**.
 - Since March 2019, more than 100 Polish regions, counties and municipalities have adopted resolutions declaring themselves to be free from **LGBTIQ “ideology”**.
 - Recently, the **Parliament of Hungary** too, adopted constitutional amendments that **restrict the rights of LGBTIQ people**.
 - Hungary and Poland have been at **loggerheads** with the **European Commission (executive body of the European Union)** over an array of

issues, mostly centering around abuses to the rule of law, the independence of the judiciary and the rights of minorities.

- The Hungarian and Poland authorities have described LGBTIQ principles of governance as “foreign” ideology.
- **The EU Resolution:**
 - The EU Parliament resolution declared the entire European Union as an “LGBTIQ Freedom Zone”.
 - The resolution provides LGBTIQ persons everywhere in the EU the freedom to live and publicly show their sexual orientation and gender identity without fear of intolerance, discrimination or persecution.
 - It further urged the authorities at all levels of governance across the EU to protect and promote equality and the fundamental rights of all, including LGBTIQ persons.
- **Global Scenario of LGBTIQ Community:**
 - **Ireland:** Ireland legalized same-sex marriage. The country, which had decriminalized homosexuality in 1993, became the **first country** to allow same-sex marriage at a national level by popular vote.
 - **USA:** US Supreme Court ruled that same-sex marriage was legal.
 - **Nepal:** Nepal legalized homosexuality in 2007 and the new Constitution of the country gives many rights to the LGBTIQ community.

LGBT Community in India

- Even after section 377 of IPC was removed by the Supreme Court in **Navtej Singh Johar v. Union of India, 2018 case**, there is a wide gap in implementing a policy for the LGBTIQ community and making a better environment for them. Right now, they are facing many issues that are underlined below.
 - **Family:** The problem of sexual orientation and gender identity leads to fighting and family disruption. Lack of communication and misunderstanding between parents and their LGBTIQ children increases family conflict.
 - **Discrimination at Work Place:** LGBTIQ suffers from the socio-economic inequalities in large part due to discrimination in the workplace.
 - **Injustice:** Human rights and fundamental rights are applicable to all people, but the state has failed to create special legislation which protects the rights of LGBTIQ Minority community and to provide real justice to them.
 - **Health Issues:** Criminalisation of homosexuality leads to discrimination and results in LGBTQ people getting poor or inadequate

access to services within the health system. It also creates barriers to both the availability and the ability to access HIV prevention, testing and treatment services.

- **Isolation and Drug Abuse:** They gradually develop low self-esteem and low self-confidence and become isolated from friends and family. These people mostly get addicted to drugs, alcohol, and tobacco to get themselves relieved of stress and rejection and discrimination.

Related Legal Developments

- **Naz Foundation vs. Govt. of NCT of Delhi (2009):**
 - Delhi High Court struck off section 377, legalising consensual homosexual activities between adults.
- **Suresh Kumar Koushal Case (2013):**
 - SC overturned the previous judgment by Delhi High Court (2009) arguing that "plight of sexual minorities" could not be used as an argument for deciding constitutionality of law.
- **Justice K.S. Puttaswamy vs. Union of India (2017):**
 - SC ruled that Fundamental **Right to Privacy** is intrinsic to life and liberty and thus, comes under **Article 21 of the Indian constitution**. It held that "**sexual orientation is an essential attribute of privacy**".
- **Navtej Singh Johar vs. Union Of India (2018):**
 - Dismissed the position taken by SC in Suresh Kumar Koushal case (2013) and decriminalised homosexuality.
- **Shafin Jahan v. Asokan K.M. and others (2018):** The Supreme Court observed that choice of a partner is a person's **fundamental right**, and it can be a **same-sex partner**.
- **Transgender Persons (Protection of Rights) Bill, 2019:** The Parliament has passed the Transgender Persons (Protection of Rights) Bill, 2019 which has been criticised for its poor **understanding of gender and sexual identity**.
- **Same-sex Marriage:** In February, 2021, the **Central Government opposed same-sex marriage in Delhi High Court** stating that a marriage in India can be recognised only if it is between a "biological man" and a "biological woman" capable of producing children.

Way Forward

- The LGTBQ community needs an **anti-discrimination law** that empowers them to build productive lives and relationships irrespective of gender identity or sexual orientation and place the onus to **change on state and society and not the individual**.

- Government bodies, especially related to Health, and Law and Order need to be sensitised to ensure that the LGBTQ community is not denied public services or harassed for their sexual orientation.

2. Sahitya Akademi Award

Why in News

Recently, Marathi writer Nanda Khare **refused to accept the Sahitya Akademi award** for his novel “Udya”, published in 2014.

Key Points

- **About Sahitya Akademi Award:**
 - Sahitya Akademi award **established in 1954**, is a literary honour that is conferred **annually by Sahitya Akademi**, India’s National Academy of letters.
 - Akademi gives **24 awards annually to literary works** in the languages it has recognized and an equal number of awards to literary translations from and into the languages of India.
 - **Besides the 22 languages** enumerated in the Constitution of India, the Sahitya Akademi has **recognised English and Rajasthani** as languages in which its programme may be implemented.
 - The Sahitya Akademi award is the **second-highest literary honour** by the Government of India, **after the Jnanpith award**.
- **Criteria for Choosing Awardee:**
 - The author must be of **Indian Nationality**.
 - Book/work eligible for the award must be an outstanding contribution to the language and literature to which it belongs.
 - When equal merit for books of two or more are found, certain criteria like total literary contribution and standing of authors shall be taken into consideration for declaring award.
- **About the Marathi Novel ‘Udya’:**
 - It is a futuristic account of the possible **scenarios emerging** as consequences of the current **capitalistic and machine-driven human life**.
 - It nuances how humans have been enslaved by machines, particularly by the ones that are susceptible to surveillance of one’s personal life.

Jnanpith Award

- The Jnanpith award is the **highest literary award** in India and can only be conferred **annually upon an Indian citizen**.

- **English** along with other languages mentioned in **Indian Constitution (8th Schedule)** is considered for the Award.
- The prize carries a cash award of Rs. 11 lakhs, a citation, and a bronze replica of Vagdevi (Saraswati), the goddess of learning.
- It is sponsored by the **cultural organization Bharatiya Jnanpith**.
- For 2018, author **Amitav Ghosh** became the **first English language writer** to become a Jnanpith laureate.
- Akkitham Achuthan Namboothiri in Malayalam language is the latest recipient of the award for the year 2019.

Other Sahitya Akademi Awards

- **Sahitya Akademi Bal Sahitya Puraskar** is given to an author based on his/her total contribution to children literature and relates to books first published during the five years immediately preceding the year of Award.
- **Sahitya Akademi Yuva Puraskar** relates to books published by an **author of the age of 35 and below**.

3. Mera Ration Mobile App Launched

Why in News

In order to facilitate the '**One Nation One Ration Card**' system in the country, the Ministry of Consumer Affairs, Food and Public Distribution has launched the '**Mera Ration**' mobile app to benefit citizens in identifying the nearest **Fair Price Shop (FPS)**.

- This app will benefit especially those ration card holders who move to new areas for livelihoods.

Key Points

- **About the App:** The app is developed by the **National Informatics Center (NIC)**.
 - **Language:** The application is currently available in English and Hindi.
 - However, it is planned to be introduced in 14 languages which will be identified on the basis of places where most migrant people move.
 - **Facilities to the Beneficiaries:**
 - Can identify and locate the nearest fair price shop.
 - Can easily check details of their foodgrain entitlement, recent transactions and the status of **Aadhaar** seeding.
 - Can register their migration details.
 - An option to enter suggestions/feedback.

- **One Nation One Ration Card (ONORC):**
 - **Implementation:**
 - The ONORC scheme is being implemented by the Department of Food and Public Distribution for the nation-wide portability of ration cards under **National Food Security Act (NFSA) 2013**.
 - The Act legally entitled upto 75% of the rural population and 50% of the urban population to receive subsidized food grains under **Targeted Public Distribution System**.
 - **Significance:**
 - This system allows all NFSA beneficiaries, particularly migrant beneficiaries, to claim either full or part foodgrains from any Fair Price Shop (FPS) in the country **through an existing ration card with biometric/Aadhaar authentication** in a seamless manner.
 - The freedom of choosing any FPS was not available earlier.
 - States completing the One Nation-One Ration Card system reform were eligible for **additional borrowing of 0.25% of gross state domestic product (GSDP)**.
 - **Seventeen states have operationalised 'One Nation-One Ration Card' system** with Uttarakhand being the latest to complete the reform.
 - **Coverage:**
 - The ONORC was started initially in 4 States in the year 2019 and was rolled out in 32 States/UTs by the end of 2020.
 - The integration of the remaining 4 States/UT (Assam, Chhattisgarh, Delhi and West Bengal) is expected to be completed in next few months.
 - It covers nearly 69 Crore NFSA beneficiaries (about 86% NFSA population) in the country and a monthly average of about 1.5~1.6 Crore portability transactions are being recorded under ONORC.
 - **Making ONORC Available to All:**
 - The government supplies 5 kg of subsidised food grains to each person per month through 5.4 lakh ration shops.
 - The integration of **Migrants' Portal** with ONROCC system is undertaken with the support of the Ministry of Labour & Employment.
 - The ONORC has been made a part of **PM SVANidhi** program of the Ministry of Housing & Urban Affairs.
 - Media publicity of the ONORC has been done with the help of the Ministry of Information & Broadcasting, Press Information Bureau, **MyGov**, Bureau of Outreach & Communication.

4. Sangay Volcano: Ecuador

Why in News

Recently, Ecuador's **Sangay volcano** erupted.

Key Points

- **About Sangay Volcano:**
 - - Sangay volcano is one of the **highest active volcanoes in the world** and one of **Ecuador's most active ones**.
 - Sangay is the southernmost **stratovolcano** (a volcano built up of **alternate layers of lava and ash**) in the northern volcanic zone of the Andes. It is 5230 m high.
 - The Andes is the **longest above water mountain range in the world** and boasts some of the highest peaks.
 - **Sangay National Park** is located in the central part of Ecuador on the Andes mountains' eastern side. It is a **world heritage site**.
- **Eruptions:**
 - The **earliest** report of a historical eruption was in **1628**. More or less continuous eruptions were reported from 1728 until 1916, and again from 1934 to the present. Sangay **has had frequent eruptions in historic times**, mostly of **strombolian type**.
- **Other Major Volcanoes of Ecuador:**
 - Ecuador, part of the **Pacific Rim's "Ring of Fire"** region, has eight volcanoes such as **Cotopaxi** (5,897m), **Cayambe** (5,790m), **Pichincha** (4,784m) etc. in its territory.

Volcanic Eruptions

- **About:**
 - Volcanic eruptions happen when **lava and gas are discharged from a volcanic vent**.
 - The most common consequences of this are population movements as large numbers of people are often forced to flee the moving lava flow.
- **Types:** Volcanic activity and volcanic areas are commonly divided into **six major types:**
 - **Icelandic:**
 - It is characterized by **effusions of molten basaltic lava** that flow from long, parallel fissures. Such outpourings **often build lava plateaus**.
 - **Hawaiian:**

- It is **similar to the Icelandic variety**. In this case, however, fluid lava flows from a volcano's summit and **radial fissures** to form shield volcanoes, which are quite large and **have gentle slopes**.
- **Strombolian:**
 - These involve **moderate bursts of expanding gases** that eject clots of incandescent lava in cyclical or nearly **continuous small eruptions**.
 - Because of such small frequent outbursts, **Stromboli volcano**, located on Stromboli Island off the northeast coast of **Italy**, has been called the "**lighthouse of the Mediterranean**."
- **Vulcanian:**
 - It is named for **Vulcano Island** near Stromboli, generally involving **moderate explosions of gas laden with volcanic ash**. This mixture forms dark, turbulent eruption clouds that rapidly ascend and expand in convoluted shapes.
- **Pelean:**
 - It is associated with explosive outbursts that generate **pyroclastic flows**, dense mixtures of **hot volcanic fragments and gas**.
 - The **fluidized slurries** produced by these eruptions are heavier than air but are of low viscosity and pour down valleys and slopes at great velocities. As a result, they are **extremely destructive**.
- **Plinian:**
 - This type is an **intensely violent kind of volcanic eruption**. In this type of eruption, gases boiling out of gas-rich magma generate enormous and nearly continuous jetting blasts that core out the magma conduit and rip it apart.
 - The uprushing gases and volcanic fragments **resemble a gigantic rocket blast directed vertically upward**. **Plinian eruption clouds can rise into the stratosphere** and are sometimes continuously produced for several hours.
 - **Lightning strikes** caused by a buildup of static electricity are common close to Plinian ash clouds, adding one more element of terror to the eruption.

5. Places of Worship (Special Provisions) Act, 1991

Why in News

The Supreme Court asked the Centre to respond to a plea challenging the **Places of Worship (Special Provisions) Act, 1991** which **freezes the status of places of worship** as it was on **15th August, 1947**.

- In agreeing to examine the law, the court has opened the doors for litigation in various places of worship across the country including Mathura and Varanasi.

Key Points

- **About the Places of Worship (Special Provisions) Act, 1991:**
 - It seeks to **maintain the “religious character”** of places of worship as it was in 1947 except in the case of **Ram Janmabhoomi-Babri Masjid dispute**, which was already in court.
- **Purpose:**
 - Section 3 of the Act **bans the conversion of a place of worship** or even a section of it into a place of worship of a different religious denomination or of a different segment of the same religious denomination.
 - Section 4(2) says that **all suits, appeals or other proceedings** regarding converting the character of a place of worship (that were pending on 15th August, 1947) will **come to end when the Act commences** and no fresh proceedings can be filed.
 - However, legal proceedings can be initiated if the change of status took place after the cut-off date of 15th August, 1947 (after enactment of the Act).
 - The Act also **imposes a positive obligation on the State to maintain the religious character** of every place of worship as it existed at the time of Independence.
 - This legislative obligation on the State to preserve and protect the equality of all faiths is an essential secular feature and one of the basic features of the Indian Constitution.
- **Exemption:**
 - The disputed site at **Ayodhya was exempted** from the Act. Due to this exemption, the trial in the Ayodhya case proceeded even after the enforcement of this law.
 - Besides the Ayodhya dispute, the Act also exempted:
 - Any place of worship which is an **ancient and historical monument or an archaeological site** covered by the **Ancient Monuments and Archaeological Sites and Remains Act, 1958**.
 - A suit that has been finally settled or disposed of.
 - Any dispute that has been settled by the parties or conversion of any place that took place by acquiescence before the Act commenced.
- **Penalty:**

- Section 6 of the Act prescribes a punishment of **maximum three-years imprisonment** along with a fine for contravening the provisions of the Act.
- **Supreme Court's View (in 2019):**
 - In the **2019 Ayodhya verdict**, the Constitution Bench referred to the law and said it manifests the secular values of the Constitution and strictly prohibits retrogression.
- **Petition Arguments:**
 - It has been challenged on the ground that the Act violates secularism.
 - It has been argued that the cut-off date of 15th August, 1947 is **"arbitrary, irrational and retrospective"** and **prohibits Hindus, Jains, Buddhists, and Sikhs** from approaching courts to **"reclaim"** their places of worship which were **"invaded"** and **"encroached"** upon by **"fundamentalist barbaric invaders"**.
 - It is argued that the Centre has no power to legislate on **"pilgrimages"** or **"burial grounds"** which is under the state list.
 - However, the government had said it could make use of its **residuary power** under Entry 97 of the Union List to enact this law.
 - **Entry 97** confers residuary powers to the Centre to legislate on subjects that are **not enumerated in any of the three lists**.

GS 3 :Economy, Science and Technology,Environment

5. Energy Efficiency Enterprise (E3) Certifications Programme

Why in News

The Ministry of Power has launched **"Energy Efficiency Enterprise (E3) Certifications Programme for the Brick Manufacturing Sector"**.

- The E3 Certification Scheme is aimed at tapping huge energy efficiency potential in this sector.

Key Points

- **About the Energy Efficiency Enterprise (E3) Certifications Programme:**

- E3 certification is an accreditation process focused on the Brick industry. The certification will be provided by the **Bureau of Energy Efficiency (BEE)**.
 - It is an initiative to recognise burnt clay brick manufacturers who adopt energy-efficient manufacturing and encourage customers to source bricks from such E3 certified manufacturing units.
 - It will be awarded to Brick Manufacturing Enterprises that meet the minimum Specific Energy Consumption (SECVol) performance criteria specified in the Scheme.
 - It is a **shift from conventional to efficient technologies and product shift** towards low density bricks with better thermal insulation.
 - The adoption of the **E3 Certification is currently voluntary** for the Brick industry.
- **Brick Manufacturing Sector:**
 - **Contribution in GDP:** The brick sector contributes nearly 0.7% to the country's GDP, offers seasonal employment generation to over 1 crore workers, and has a strong influence on other economic sectors such as transportation and construction.
 - **Market Size:** India is the **world's second largest producer of bricks** and this demand is expected to multiply three to four times over the next 20 years, through the E3 Certification program.
 - **Energy Consumption:** The brick manufacturing industry consumes about 45-50 million tonnes of coal equivalent annually, amounting to 5-15% of the total energy consumption in the country.
 - The brick sector has the second largest potential for energy efficiency amongst the Indian industrial sector after steel and more than cement.
- **Advantages of E3 Certification:**
 - The implementation of E3 Certification will lead to multiple benefits:
 - **Energy savings in the brick manufacturing process.**
 - **Improved quality of bricks.**
 - **Cost savings to builders.**
 - **Energy savings to occupiers of buildings** due to better thermal comfort and improved insulation properties.
 - Energy saving of 7 Million Tonnes of oil equivalent (MTOE) per year and CO₂ savings of about 25 Million Tonnes by 2030 are estimated through adoption of E3 Certification by 7500 Bricks manufacturing units.
 - **Modernization of Sector:** The Scheme seeks to accelerate brick sector modernization, using market incentives to create customer demand to fulfil the vision for **Aatmanirbhar Bharat**.

- **ECBC Compliance:** Energy efficient bricks will be useful in complying with the requirements of **Energy Conservation Buildings Code (ECBC)**.

Bureau of Energy Efficiency

- **Bureau of Energy Efficiency (BEE)** is a **statutory body** under the Ministry of Power which was setup in 2002 under the provisions of the **Energy Conservation Act, 2001**.
 - It is mandated to implement policy and programmes in the area of energy efficiency and conservation.
- It assists in developing policies and strategies with the primary objective of reducing energy intensity of the Indian economy.
- **Major Programmes:** State Energy Efficiency Index, Perform Achieve and Trade (PAT) scheme, The Standards & Labeling Programme, Energy Conservation Building Code, etc.

Energy Conservation Building Code

- The **Bureau of Energy Efficiency** had launched **Energy Conservation Building Code (ECBC) 2007** to establish minimum energy performance standards for buildings in India.
 - Buildings consume a significant proportion of our energy resources and the ECBC is an essential regulatory tool to curb their energy footprint.
- ECBC sets minimum energy standards for new commercial buildings having a connected load of 100kW (kilowatt) or contract demand of 120 KVA (kilovolt-ampere) and above.
- BEE has **also developed a voluntary Star Rating Programme for buildings** which is based on the actual performance of a building, in terms of energy usage in the building over its area expressed in kWh/sq. m/year.

6. Genome Mapping in Indian Ocean

Why in News

National Institute of Oceanography (NIO) is going to launch the **first-of-its-kind project of Genome Mapping in the Indian Ocean**.

- Indian Ocean is the third largest water body in the world, covering about 20% of the Earth's water surface.

Key Points

- **Aim:**
 - To **gather samples for genome mapping of microorganisms** in the Indian Ocean.
 - To **understand the biochemistry and the response of the ocean to climate change, nutrient stress and increasing pollution.**
- **Project Cost & Duration:**
 - Rs. **25 crore** and will take **three years** to complete.
- **About:**
 - A team of scientists and researchers from the NIO on board its research vessel **Sindhu Sadhana** will spend 90 days traversing the course of over **10,000 nautical miles** in the Indian Ocean on the research project to **reveal the internal working of the body of the ocean at a cellular level.**
 - They will course the Indian Ocean **from India's east coast, Australia, Port Louis in Mauritius and up to the border of Pakistan, off India's west coast.**
- **Genome Collection:**
 - The researchers will **collect samples** from various stretches of the ocean at an **average depth of about 5 km.**
 - Just like **gene mapping** is carried out on blood samples collected from humans, the scientists will map these **in the bacteria, microbes found in the ocean.**
 - The mapping of the **Deoxyribose Nucleic Acid (DNA)** and **Ribonucleic Acid (RNA)** will show the nutrients present in them, and also those lacking in different parts of the ocean.
- **Studying Trace Elements:**
 - Trace metals like **cadmium or copper** are supplied to oceans via continental run-offs, atmospheric deposition, hydrothermal activities and continental shelf interaction.
 - They are **essential for ocean productivity.**
 - It is important to understand the **interactions of trace metals with marine biota** "for having a holistic understanding about nutrient cycling and productivity of the oceans".
 - Apart from their reactions on marine life, **isotopic forms of trace metals can be utilised to track the movement of water masses** responsible for ocean circulation and as tools to study the biological, geochemical and ecosystem processes and food web analyse.
 - The NIO's project is expected to **generate new information about trace metals from underexplored regions** of the Indian Ocean.
- **Benefits:**
 - **Understanding Ecosystem:**
 - It will help scientists understand the **internal working of the ecosystem** of the Indian Ocean.

- **Understanding Factors Causing Change:**
 - The research will enable scientists to identify the **factors controlling the changes in RNA, DNA in the oceans**, and various stressors impacting them.
- **Identifying Mineral Concentration:**
 - The ocean has several **micronutrients** like nitrates, sulphates and silicates, **minerals** like iron ore and zinc, and **trace metals** like cadmium or copper.
 - The genome mapping will show the **presence of which these microbes have adapted to**, in addition to their reaction to atmospheric carbon dioxide.
 - This will help in **identifying which part of the ocean has a greater concentration of which mineral or element**.
 - Scientists will then use these as tracers to tackle the causative factors for excess or lack of a certain mineral or element and **suggest possible solutions for their mitigation**.
- **Human Benefit:**
 - The **large pool of RNA, DNA library of the oceans** will be utilised for using the Indian Ocean to **human benefit in the future**.
- **Increased Biotechnology Application:**
 - Genome mapping will enable an increase in the **growing number of commercial biotechnology applications**, extending from multiple anticancer treatments to cosmetics and industrial enzymes, to antiviral molecules.
- **Optimization of Conservation Efforts:**
 - Exploration of the ocean at a genetic level will result in **new insights into taxonomy** and adaptive capacity that can help optimize conservation efforts.

Genome

- A genome is the complete set of DNA (or RNA in RNA viruses) of an organism.
- Each genome contains **all of the information needed to build and maintain that organism**.
- In humans, a copy of the entire genome contains more than 3 billion DNA base pairs.

Genome Mapping

- It describes the methods used to identify the locus of a gene and the **distances between genes**. Gene mapping can also describe the distances between different sites within a gene.
- Taking inspiration from the Human Genome Project, the Department of Biotechnology (DBT) initiated the ambitious “**Genome India Project**” (GIP) in January 2020. The GIP aims to collect 10,000 genetic samples from citizens across India, to build a reference genome.

National Institute of Oceanography

- **About:**
 - It is a **multi-disciplinary oceanographic research institute** and is one of the constituent laboratories of the **Council of Scientific & Industrial Research (CSIR)**, New Delhi.
- **Headquarter and Other Centres:**
 - Its **headquarters is at Dona Paula, Goa** with regional centres at Kochi (Kerala), Mumbai (Maharashtra) and Visakhapatnam (Andhra Pradesh).
- **Established:**
 - It was established on **1st January 1966** following the **International Indian Ocean Expedition (IIOE)** in the 1960s.
- **Research Areas:**
 - The principal focus of research has been on **observing and understanding special oceanographic characteristics of the Indian Ocean**.
 - The major research areas include the four traditional branches of oceanography - **biological, chemical, geological/geophysical and physical**, as well as **ocean engineering, marine instrumentation and marine archaeology**.

7. Asteroid 2001 FO32

Why in News

The **National Aeronautics and Space Administration (NASA)** has predicted that the asteroid ‘**2001 FO32**’ is the **largest to pass by Earth in 2021**. It will be at its closest on 21st March.

- It will provide a rare opportunity for astronomers to get a good look at a rocky relic that formed at the dawn of our solar system.

Key Points

- **About the 2001 FO32 Asteroid:**
 - **Discovery:** It was discovered 20 years ago and ever since the scientists have been tracking its orbital path around the Sun very accurately.
 - It was **discovered in March 2001 by the Lincoln Near-Earth Asteroid Research (LINEAR) program** in Socorro, New Mexico.
 - **1998 OR2 was the last notably large asteroid** that passed close to earth on 29th April, 2020. While 2001 FO32 is somewhat smaller than 1998 OR2, it will be **three times nearer to Earth**.
 - **Orbit:** It is in a highly **eccentric orbit around the Sun**. It **completes one orbit every 810 days** (about 2¼ years). The orbit is tilted 39° to Earth's orbital plane.
 - This orbit takes the asteroid closer to the Sun than Mercury, and twice as far from the Sun as Mars.
 - **Speed:** The asteroid will pass by at about 1,24,000 kph. It is faster than the speed at which most asteroids encounter Earth.
 - The reason for the asteroid's unusual speed is its close approach to the earth.
 - **No Threat of Collision:**
 - The near-Earth asteroid will make its closest approach at a distance of about 2 million kilometers or 5 1/4 times the distance from Earth to the Moon.
 - The distance is close in astronomical terms, that's why it has been designated a **"potentially hazardous asteroid"**.
 - There is no threat of a collision with our planet now or for centuries to come.
 - **Next Close Approach:** The asteroid will not come this close to Earth again until 2052, when it will pass by at about seven lunar distances, or 2.8 million km.
- **Significance:**
 - It will provide an opportunity for astronomers to get a more precise understanding of the asteroid's size and albedo (i.e. how bright, or reflective, its surface is), and a rough idea of its composition.
 - When sunlight hits an asteroid's surface, minerals in the rock absorb some wavelengths while reflecting others. By studying the spectrum of light reflecting off the surface, astronomers can measure the chemical "fingerprints" of the minerals on the surface of the asteroid.
- **Other Asteroids Seen in News:**
 - Asteroid 2020 ND
 - 163348 (2002 NN4)
 - Asteroid 2018VP1
 - Asteroid 16 Psyche
 - Asteroid Bennu

Asteroids

- Asteroids orbit the Sun and are small bodies in the solar system.
- They are made up of metals and rocks.
- They tend to have shorter and elliptical orbits.
- They do not produce a coma or tail atmosphere.
- The asteroid belt is a torus-shaped region in the Solar System, located roughly between the orbits of the planets Jupiter and Mars.

Classification of Asteroids

- **Main Asteroid Belt:** The majority of known asteroids orbit within the asteroid belt between Mars and Jupiter.
- **Trojans:** These asteroids share an orbit with a larger planet, but do not collide with it because they gather around two special places in the orbit (called the L4 and L5 Lagrangian points). There, the gravitational pull from the sun and the planet are balanced.
 - Lagrange Points are positions in space where the gravitational forces of a two body system like the Sun and the Earth produce enhanced regions of attraction and repulsion. These can be used by spacecraft to reduce fuel consumption needed to remain in position.
- **Near-Earth Asteroids:** These objects have orbits that pass close by that of Earth. Asteroids that actually cross Earth's orbital path are known as Earth-crossers.

Potentially Hazardous Asteroid

- It means that an asteroid has the potential to make threatening close approaches to the Earth.
- Specifically, all asteroids with a **Minimum Orbit Intersection Distance (MOID)** of 0.05 AU (which is about 7,480,000 Km) or less and an **Absolute Magnitude (H)** of 22.0 (about 150 mt in diameter) or less are considered PHAs.
 - **Minimum Orbit Intersection Distance** is a method for calculating the minimum distance between two almost overlapping elliptical orbits.
 - The **Astronomical Unit (AU)** is the distance between the Earth and the Sun and is roughly 150 million km.
 - The **absolute magnitude** is a measure of the star's luminosity i.e. the total amount of energy radiated by the star every second.

Prelims Practice Questions

1. The joint lunar polar exploration (LUPEX) mission is a joint collaboration between India and which other country?

- a. Japan
- b. USA
- c. Russia
- d. France

Answer: a

Explanation:

- India and Japan are working on a joint lunar polar exploration (LUPEX) mission.
- The Lunar Polar Exploration mission is a robotic lunar mission concept by the Indian Space Research Organisation and Japan Aerospace Exploration Agency that would send a lunar rover and lander to explore the South Pole region of the Moon in 2024.

2. What are the advantages of hydrogen as a fuel?

1. Ease of storage
2. High energy density
3. Higher safety
4. Non-polluting
5. Renewable source

Options:

- a. 1, 2, 3, 4 and 5
- b. 1, 2, 3 and 4 only
- c. 2, 4 and 5 only
- d. 2, 3 and 5 only

Answer: c

Explanation:

Advantages of hydrogen as a fuel:

- Hydrogen has the highest energy content of any common fuel by weight.

- Its usage can help reduce greenhouse gas emissions and thus help improve environmental quality. Hydrogen is the most abundant element in the Universe and despite the challenges associated with its extraction from water, it is a uniquely abundant and renewable source of energy, perfect for our future zero-carbon needs for combined heat and power supplies. Hydrogen can be produced from diverse domestic resources with the potential for near-zero greenhouse gas emissions.

Challenges in using hydrogen as a fuel:

- Hydrogen's energy content by volume is low. This makes storing hydrogen a challenge because it requires high pressures, low temperatures, or chemical processes to be stored compactly. Because hydrogen has a lower volumetric energy density than gasoline, storing this much hydrogen on a vehicle currently requires a larger tank at a higher pressure than other gaseous fuels.
- Hydrogen has a wide range of flammable concentrations in air and lower ignition energy than gasoline or natural gas, which means it can ignite more easily.

3. Which of the following pairs of temple and associated school of architecture is incorrectly matched?

- a. Lingaraja Temple: Kalinga style
- b. Kandariya Mahadeva Temple: Khajuraho school
- c. Modhera Sun Temple: Solanki school
- d. Meenakshi Temple, Madurai: Vijayanagara school

Answer: d

Explanation:

- Meenakshi temple in Madurai is based on the Nayaka school of architecture.

4. Consider the following statements:

1. Mount Sinabung is an active volcano of Indonesia.
2. Sinabung and Semeru volcano are located in the Pacific Ring of Fire.

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 : C

Explanation

- Mt. Sinabung (2,600-metre) is located in Karo regency, North Sumatra.
 - **Sinabung is among more than 120 active volcanoes** in Indonesia, which is prone to seismic upheaval due to its location on the **Pacific Ring of Fire**.
 - The volcano was dormant for 400 years before exploding in 2010.
 - It exploded again in 2014 ,2016 and 2020.
- **Semeru** is the highest volcano in Java and one of the most active.
 - It previously erupted in December, 2019.
 - Indonesia, with the maximum number of active volcanoes in the world, is prone to seismic upheaval due to its location on the **Pacific's Ring of Fire. Hence, statements 1 and 2 are correct.**
 - It is also known as "The Great Mountain".

5. Shramik Kalyan Portal is associated with which of the following?

- a. Indian Railways
- b. Ministry of Mines
- c. Ministry of Labour and Employment
- d. Indian Council of Agricultural Research

Answer : a

Explanation:

- Indian Railways ensures 100% compliance of payment of minimum wages to contract workers through e-application Shramik Kalyan Portal.
- E-Application ensures the compliance of provisions of Minimum Wages Act and also ensures that contractual workers working in Indian Railways get their rightful due by enforcing the contractors to regularly upload wage payment data into e-application.
- This helps Railways as Principal Employer, in keep vigil over wages disbursed by contractors to contract workers.

6. With reference to Midday Meal Scheme, consider the following statements:

1. The scheme is under the Ministry of health and family welfare.
2. It provides cooked meals to children within the age of 6 years to 14 years.

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

- The Midday meal scheme is **under the Ministry of Education (earlier Ministry of Human Resource Development)** is a centrally sponsored scheme which was launched in 1995. **Hence, statement 1 is not correct.**
- It is the world's largest school meal programme aimed to attain the goal of universalization of primary education.
- It provides cooked meals to every child within the age group of **six years to fourteen years** studying in classes I to VIII who enrolls and attends the school. **Hence, statement 2 is correct.**

Mains Practice Questions

1Q. Examine the Stoic's models of ethics in terms of its suitability for modern civil servants? (150 words)

Approach

- Briefly discuss the Stoics ethical models in Introduction.
- In body mention the ethical notions and cardinal virtues of Stoic.
- Inspect the suitability of the model properly in terms of their utility for modern-day civil servants.
- Conclude the answer suitably.

2Q. Act East Policy can only be successful if apprehensions of ASEAN nations are resolved. Discuss with the relevant examples. (150 words)

Approach

- Briefly discuss Act East Policy in introduction.
- Highlight ASEAN's apprehensions in the region.
- Highlight steps taken by India to overcome such apprehensions.