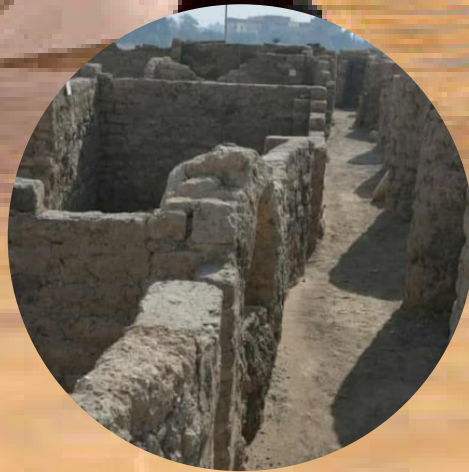


PRAYAS4IAS

AN INITIATIVE BY THE PRAYAS INDIA

APRIL WEEK 3



April (Week 3)

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Prelims

NATIONAL

Indus and Ganges river dolphins

(Source: [The Hindu](#))

Context: Detailed analysis of South Asian river dolphins has revealed that the Indus and Ganges River dolphins are not one, but two separate species.

Divergent species

- Currently, they are classified as two subspecies under *Platanista gangetica* and this needs a revision. The study estimates that Indus and Ganges river dolphins may have diverged around 550,000 years ago.
- The international team studied body growth, skull morphology, tooth counts, colouration and genetic makeup and published the findings last month in *Marine Mammal Science*.
- The paper notes that “comparative studies of animals in the two river systems are complicated by the fact that they occur in neighboring countries separated by an unfriendly international border...Thus, sharing of samples or data between countries is extremely challenging.”
- The Ganges dolphin is a Schedule I animal under the Indian Wildlife (Protection) Act 1972, and has been included in Annexure – I of Convention on International Trade in Endangered Species (CITES), so you cannot transfer any tissue or sample to foreign countries without getting CITES permission from the Competent Authority of Government of India.
- Another reason was that finding dead animals were uncommon because they either float downstream or sink, and museum collections worldwide contain only a few specimens and most of them are damaged.

Conservation status

- The Indus and Ganges River dolphins are both classified as ‘Endangered’ species by the International Union for Conservation of Nature (IUCN).
- Physical barriers such as dams and barrages created across the river reduced the gene flow to a great extent making the species vulnerable;
- River flow is also declining very fast as river water is being diverted through the barrages and this has affected the dolphin habitats.
- Previously fishermen used to hunt dolphins and use their oil as bait, but though that practice of directed killing has stopped and they are not being hunted intentionally they end up as accidental catches. Also, before the 1990s, we had oar boats and country boats; but now mechanised boats are also causing accidental injury to the dolphins.”

Uttarakhand’s Char Dham Board

(Source: [Indian Express](#))

Context: The Uttarakhand government in December 2019 had tabled the Uttarakhand Char Dham Shrine Management Bill, 2019, in the state Assembly amid protests – within and outside the Vidhan Sabha. The bill

was aimed at bringing the Char Dham of Badrinath, Kedarnath, Gangotri and Yamunotri and 49 other temples under the purview of a proposed shrine board. The bill was passed in the Assembly and became the Uttarakhand Char Dham Devasthanam Management Act, 2019.

Details:

- Under the same Act, the BJP government led by then CM Trivendra Singh Rawat constituted the Uttarakhand Char Dham Devasthanam Board on January 15, 2020.
- The Chief Minister is the chairman whereas the minister for religious affairs is the vice-chairman of the board. Two MLAs of Gangotri and Yamunotri are members on the board along with the Chief Secretary. A senior IAS officer is the Chief Executive Officer.
- Under this board, at present there are 53 temples, including four shrines – Badrinath, Kedarnath, Gangotri and Yamunotri – and other temples located around these shrines.
- The shrine board is the highest governing body for the management of the temples with powers to frame policies, make decisions to give effect to the provisions of this Act, of budget formulation and to sanction expenditure, among others.
- The board may also give directions for the safe custody, prevention and management of funds, valuable securities, jewellery and properties vested in the temples.
- So far, the board has met only three times under former CM Trivendra Singh Rawat and discussions were held regarding development around char dharma shrines and char dham yatra.

What was the previous arrangement?

- Earlier, the Shri Badrinath-Shri Kedarnath Act, 1939 was in place for the management of two shrines – Badrinath and Kedarnath – and 45 temples by Shri Badrinath- Shri Kedarnath Mandir Samiti.
- The Samiti was chaired by a government appointed person whereas an official of all India service used to be the CEO.
- All the decisions related to utilization of the donations, funds and development works in and around those 45 temples including Badrinath and Kedarnath were taken by that committee and the government did not intervene into it. But through the Devasthanam board, the government has taken control over the financial and policy decisions.
- Most of these provisions of this Act (Shri Badrinath-Shri Kedarnath Act, 1939) are no longer relevant in the present context. In view of this, the Uttarakhand Char Dham Shrine Management Bill, is proposed. This Bill thus will provide to be a milestone for the rejuvenation of Shri Badrinath, Shri Kedarnath, Gangotri, Yamunotri and other famous temples.
- In Gangotri and Yamunotri, management of the shrines was earlier in the control of local trusts and the government was not getting any share from the donations made by devotees.

Odisha Itihaas

Context: Prime Minister Narendra Modi released the Hindi translation of the book, ‘Odisha Itihaas’, written by former chief minister Harekrushna Mahatab. Releasing the book, which is already available in Oriya and English, the Prime Minister said, “It is important that the diverse and comprehensive history of Odisha should reach the people of the country.”

Who was Harekrushna Mahtab?

- Dr Mahatab was born in 1899 to a poor family at Agarpada village in Balasore. He was inspired by the ideals of Bagha Jatin and was influenced by Ramakrishna Mission.



- At a very young age, Mahatab joined the freedom struggle and even accompanied Mahatma Gandhi to various districts during his visit to the state in 1921. He eventually left his family to devote his life for the uplift of the Congress organisation.
- He went on to become the first chief minister of the state from 1946 to 1950 and was re-elected in 1956. He also earned the sobriquet 'Utkal Keshari'.
- He is also credited with setting up Bhubaneswar as the capital of the state, along with the construction of the Secretariat building, Raj Bhawan and Assembly buildings.
- Considered a historian, during his term in jail, Mahatab translated a lot of History books. He translated Valmiki's Ramayan from Sanskrit into Oriya and also wrote the Oriya version of the Gita. In 1946, during his stay at Patna camp jail, he published poems collected from political prisoners called "Bedira Jan Jan".

The history of the book 'Odisha Itihaas'

- The idea behind publishing a book on the history of Odisha took shape when Mahatab was imprisoned in Ahmadnagar for participating in the Quit India Movement.
- Dr Hemanta Kumar Mohapatra, in an article on Dr Mahatab published in the 2015 edition of Odisha review magazine by the Government of Odisha, writes about Mahatab's term in Ahmadnagar: "Nehru showed Mahatab some lines from Edward Thomson's book 'The Beginning of Indian Princes'.
- In this book, Thomson depicted Jagannath Temple as a 'notorious Shrine, the uncouth temple where an incomprehensible people revered ugliness as the personification of divine attribute and Brahminism seems to flaunt its differences from all other religions of the modern world.'
- Mahtab was sorry because he had little historical knowledge to counter such an "uncalled for" view of a foreign historian. Even he could not name a standard book on Odisha history for reference to refute such a humiliating version in the book of Thomson.
- It was then that Mahatab decided to explore the history of Odisha, especially to know about the ancient history of Lord Jagannath. He studied a lot of historical writings, including that of Toynbee, Gibbon and other historians, and published the Oriya version of his 'History of Odisha' in 1948.
- To take it further, he also conducted a special session of the Indian Historical Record Commission in Odisha to address important historical issues from the state and initiate a dialogue between historians and prominent people from across the state.

Goa's newly introduced Advanced Antiquities Mgmt System

(Source: [Indian Express](#))

Context: *The Directorate of Archives and Archaeology (DAA) of the Goa government inaugurated the Advanced Antiquities Management System on March 30 that it claimed was the first such system in the country for storage of antiquities. The system that catalogues 83 antiquities at present is aimed at providing quick information about an antiquity linked to the software, saving storage space and ensuring improved preservation of the objects of historical significance.*

What is the Advanced Antiquities Management System?

- The AAMS is a software-driven automated storage used for the storage of various objects. So far it has been used for storage of industrial equipment but the decision of Goa's DAA to use it for storing valuable antiquities is the first such in the country, it said.
- The AAMS will ensure safety of antiquities, clean storage space, access control and data management and also enhance utilisation of space.
- With antiquities preserved within the system, it will provide access to these in one place with the help of a screen on which the preserved antiquities can be searched and accessed within the system for viewing.

It will also provide information about the age of the antiquity, the material it is made of and its brief history.

Who will be able to use the AAMS?

- The system will mostly benefit researchers and students permitted access by the Directorate of Archives and Archaeology (DAA) in Goa and officials of the department. Students researching various archaeological subjects often seek access to antiquities in the care of the Directorate.
- Unlike a manual log of these antiquities, a click on the screen attached to the system will give the user information about the antiquity immediately and it can also be updated based on latest information about the antiquity.
- This is also expected to benefit the DAA as it will save storage space, provide protection from dust and temperature control.
- Inaugurating the system that cost Rs 27 lakh, Goa deputy chief minister Chandrakant Kavlekar said there was a need for advanced technology for the maintenance of heritage objects. He also said that the Goa government plans to introduce similar storage for six crore archival documents in the state.

Last two rhinos translocated under IRV 2020

(Source: [The Hindu](#))

Context: *The ambitious Indian Rhino Vision 2020 (IRV 2020) came to a close with the release of two rhinos — an adult male and a female — in Assam's Manas National Park transported from Pobitora Wildlife Sanctuary about 185 km east.*

Background

- Designed in 2005, the IRV2020 is believed to have achieved its target of attaining a population of 3,000 rhinos in Assam. But the plan to spread the Rhinoceros unicornis across four protected areas beyond Kaziranga National Park, Orang National Park and Pobitora could not materialise.
- Assam had at least five rhino-bearing areas till the 1980s. Better conservation efforts helped maintain the population of the one-horned herbivore in Kaziranga, Orang and Pobitora, but encroachment and poaching wiped the animal out of Manas and Laokhowa Wildlife Sanctuary.
- The lesser-known Laokhowa slipped under the radar of international watchdogs. Manas, in focus for the near-extinction of the pygmy hog, lost the World Heritage Site tag it received in 1985 along with Kaziranga from the UNESCO.
- The translocated rhinos helped Manas National Park get back its World Heritage Site status in 2011. It can be expected that the translocation programme will set up a healthy, breeding population for the future of the species.

BIS Hallmark for Gold jewellery

(Source: [The Hindu](#))

Context: *The Centre will go ahead with its plan to mandate hallmarking of gold jewellery from June 1. The plan had been delayed due to the COVID-19 pandemic.*

Details:



- Last year, the then Union Minister for Consumer Affairs Ram Vilas Paswan had announced January 2021 as the deadline, but jewellers had been given an extension.
- No further extension has been sought, Consumer Affairs Secretary Leena Nandan said at a virtual press conference. Gold hallmarking is a purity certification and is voluntary at present.
- About 40% of gold jewellery is sold with a hallmark.
- As per the new rules, if jewellery or an artefact made of 14-, 18- or 22-carat gold is sold without the BIS hallmark, the jeweller could be penalised five times the cost of the object or imprisoned for up to one year.

What is hallmarking?

- BIS, a government body, certifies the purity of gold bought by you. The process of certifying the purity of gold is called hallmarking. According to the BIS website, there are two principle objectives of the hallmarking scheme:
 - To protect the public against adulteration
 - To obligate manufacturers to maintain legal standards of fineness/purity
- There are four components that one should look for on the hallmarked gold ..
 - BIS Mark;
 - Purity in Karat and fineness;
 - Assaying and Hallmarking Centre's identification mark/number;
 - Jeweller's Identification mark/number

The falling Rupee

(Source: [Indian Express](#))

Context: *The Indian Rupee hit a nine-month low of 75.4 against the US Dollar on 13th April 2021 and has lost nearly 4.2 per cent over the last three weeks — one of the biggest losers among the emerging market currencies. **The Rupee came** under severe pressure over the last three weeks in line with the sharp rise in Covid-19 cases and RBI's announcement, last week, to maintain fairly accommodative monetary policy and that it will inject liquidity through the Government Securities Acquisition Programme (**G-SAP**) programme — starting with Rs 1 lakh crore in the current quarter. As concerns are growing over the delay in recovery of the economy and normalisation, the Rupee has taken a hit.*

What are the key reasons for the decline?

- Rising Covid numbers — over 1.6 lakh fresh daily cases — have emerged as a key concern. As several states are now considering more stringent lockdown measures, market participants are concerned over delay in the recovery of the economy, that was hit hard in 2020-21 by the pandemic.



Currency movement against USD

	Mar 22	Mar 22	Change Since Mar 22
Turkish New Lira	7.80	8.14	4.36
Indian Rupee	72.38	75.42	4.20
Brazilian Real*	5.51	5.73	3.99
Russian Ruble	74.77	77.20	3.25
Thai Baht	30.87	31.59	2.33
Indonesian Rupiah	14403.00	14620.00	1.51
Chinese Yuan Reniminbi	6.51	6.55	0.61
Malaysian Ringgit	4.11	4.14	0.51
Euro	0.84	0.84	0.36
Philippines Peso	48.52	48.55	0.06
South African Rand	14.72	14.60	-0.82
Pakistan Rupee	156.05	152.13	-2.51
The Indian EXPRESS <small>*April 12; Source: Market</small>			

- Besides, the strengthening of dollar in line with expectations of better growth in the US economy, has also put pressure on the Rupee. While the Dollar was trading at 1.233 to a Euro in early January 2021, it is currently trading at 1.189 to a Euro and has gained over 3.5 per cent. Since March 1, 2021, the Dollar has gained close to 1.5 per cent against the Euro.
- Last week, RBI's announcement of G-SAP programme to infuse liquidity has also put additional pressure on the Rupee. This is being read as a sort of quantitative easing policy the global central banks had followed, in which the RBI will support the government's elevated borrowing programme through infusion of liquidity.
- Another factor that is putting additional pressure is the dwindling support of the foreign portfolio investors, who pumped huge inflows into Indian equity markets between October and February. While the FPIs invested a net of Rs 1.94 lakh crore between October and February (in the Indian markets) in the month of April they have pulled out a net of Rs 2,263 crore (till date).

What is a currency chest?

(Source: [Indian Express](https://www.indianexpress.com))

Context: The theft to the tune of Rs 4.04 crore by a private security guard from the currency chest of Axis Bank in Chandigarh's Sector 34 has put the affairs of currency chests in the spotlight. It is for the first time in Chandigarh when such a huge amount was stolen from inside a bank. Although a few crimes have been

reported involving the robbery of jewellery items. In 2012, jewellery worth Rs 12 crore was stolen from a leading jewellery showroom.

What is currency chest? Which authority monitors it?

- Currency chest is a place where the Reserve Bank of India (RBI) stocks the money meant for banks and ATMs.
- These chests are usually situated on the premises of different banks but administered by the RBI.
- Representatives of the RBI inspect currency chests time-to-time, and update their senior officers about it.
- The money present in the currency chest belongs to the RBI and the money, kept in the strong room outside the currency chest belongs to the bank. In the case of Axis Bank, Sector 34, the stolen amount of Rs 4.04 crore was the property of the RBI. Before sanctioning the currency chests, the RBI personnel inspect the premises of the applicant banks.

What is the security arrangement for the chests?

- The security of currency chests is the subject of the bank in which chests are situated. The Reserve Bank of India (RBI) reimburses the security expenses to the bank as per the set norms.
- The expenses includes the cost of transportation of cash from one bank to another.
- In the current case, the management of Axis Bank-34 has hired Punjab police personnel for the security of currency chest. A bank may stock in the currency chest as per its Cash Balance Limit (CBL), which differs in every bank.

Aahaar Kranti

(Source: [PIB](#))

Context: *Dr Harsh Vardhan will launch a new mission called 'Aahaar Kranti'*

Objective

- The initiative 'Aahaar Kranti' will focus on addressing the problem of hunger and diseases in abundance across India and the world.
- The initiative will shine a light on the richness and value of India's traditional diet, the miracles of local fruits and vegetables, and the healing powers of a balanced diet.
- During the online launch of the mission, the Union Health Minister Dr. Harsh Vardhan noted that the first day of Ma Annapurna's Chaitra Navratri is an apt day for launching a welfare programme such as 'Aahaar Kranti'.

Aahaar Kranti Mission: Key Highlights

- The mission 'Aahaar Kranti' was launched by Dr. Harsh Vardhan, Union Minister, Health and Family Welfare, Government of India on April 13, 2021.
- This motto of the mission is '**Uttam Aahaar, Uttam Vichaar**' that translates to '**Good Diet, Good Cognition**'.
- The mission aims at raising awareness about a nutritionally balanced diet in India. It **focuses on addressing the problem of hunger and diseases in abundance across India and the world.**
- **The initiative will shine a light on the richness and value of India's traditional diet, the miracles of local fruits and vegetables, and the healing powers of a balanced diet.**
- The initiative will give training to teachers, who will pass on the wisdom to the students, and this will create a flow of information from the children to their families and the society at large.
- The initiative will set a model for the world to follow and portray India as a 'Vishwa guru'.

e-SANTA

(Source: [PIB](#))

Context: Union Commerce and Industry Minister Shri Piyush Goyal virtually inaugurated **e-SANTA**, an electronic marketplace providing a platform to connect aqua farmers and the buyers.

What is e-SANTA?

- E-Santa is an electronic marketplace providing a platform to connect aqua farmers and buyers.
- The term e-SANTA was coined for the web portal, meaning Electronic Solution for Augmenting NaCSA farmers' Trade in Aquaculture.
 - National Centre for Sustainable Aquaculture (NaCSA) is an extension arm of the Marine Products Export Development Authority (MPEDA), Govt. of India, Ministry of Commerce & Industry.
- e-SANTA is a Digital Bridge to end the market divide and will act as an alternative marketing tool between farmers & buyers by eliminating middlemen.
- It will revolutionize traditional aquafarming by providing cashless, contactless and paperless electronic trade platform between farmers and exporters.
- The farmers have the freedom to list their produce and quote their price while the exporters have the freedom to list their requirements and also to choose the products based on their requirements such as desired size, location, harvest dates, etc.

MANAS

(Source: [PIB](#))

Context: Community Mental-Health Digital platform MANAS launched.

About MANAS:

- MANAS App is a well-being App that stands for Mental Health and Normalcy Augmentation System.
- It is endorsed as a national program by the Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC).
- MANAS is a comprehensive, scalable, and national digital wellbeing platform and an app developed to augment the mental well-being of Indian citizens.
- MANAS App integrates the health and wellness efforts of various government ministries, scientifically validated indigenous tools with gamified interfaces developed/researched by various national bodies and research institutions.
- MANAS was initiated by the Office of the Principal Scientific Adviser to the Government of India. It was jointly executed by NIMHANS Bengaluru, AFMC Pune and C-DAC Bengaluru.

INTERNATIONAL

What is Monkeydactyl?

(Source: [Indian Express](#))

Context: *The pterosaur species were reptiles, close cousins of dinosaurs and the first animals after insects to evolve powered flight, the American Museum of Natural History says. They evolved into various species; while some were as large as an F-16 fighter jet, others were as small as paper airplanes. The new pterosaur fossil was discovered in the Tiaojishan Formation of Liaoning, China, and is thought to be 160 million years old. It has now been described by an international team of researchers from China, Brazil, UK, Denmark and Japan, and has been named *Kunpengopterus antipollicatus*, also dubbed “Monkeydactyl”.*

What has the team of researchers found?

- “Antipollicatus” in ancient Greek means “opposite thumbs”, and it was attached to the name because the researchers’ findings could be the first discovery of a pterosaur with an opposed thumb.
- “The research team scanned the fossil of *K. antipollicatus* using micro-computed tomography (micro-CT), a technique making use of X-ray to image an object. By studying its forelimb morphology and musculature, they suggest that *K. antipollicatus* could have used its hand for grasping, which is likely an adaptation for arboreal life,” a press release issued by the University of Birmingham stated.



- The recently found pterosaur fossil is far older than the one identified in 2019. Paleontologists had identified that species as a pterosaur that lived over 77 million years ago in what is Western Canada today.

- The Center for Academic Research and Training in Anthropogeny defines opposability of the thumb as being able to “simultaneously flex, abduct and medially rotate the thumb” in a way that one is able to bring the tip of the thumb to touch the tips of the other fingers.
- Along with humans, some ancient monkeys and apes also had opposable thumbs. Humans, however, have a relatively longer and distally placed thumb, and larger thumb muscles.
- This means that humans’ tip-to-tip precision grip when holding smaller objects is superior to non-human primates. This is the reason that humans are able to hold a pen, unscrew an earring stopper, or put a thread through a needle hole.
- As per the American Museum of Natural History, the grasping hands of primates developed as a result of their life in the trees — an opposable thumb made it easier for the common ancestor of all primates to cling on to tree branches.

Quasars

(Source: [The Hindu](#))

Context: *Astronomers have discovered a dozen quasars that have been warped by a naturally occurring cosmic “lens” and split into four similar images. Quasars are extremely luminous cores of distant galaxies that are powered by supermassive black holes. This rare discovery increases the number of known quasars or quads by about 25% and can help determine the expansion rate of the universe and address other mysteries.*

Definition:

- Quasi Stellar radio sources, abbreviated QUASARS, are the most dynamic and far-off objects in a collective known as active galactic nuclei (AGN).
- These radiant sources were formed approximately twelve billion years ago. Quasar formations take place by collision of galaxies, i.e., the central black holes merge to form a super-massive black hole.
- Quasars were foremost identified as red shift sources of electromagnetic energy, including radio waves and visible light that are akin to stars in appearance. Its spectrum consisted of wide emission lines, unlike stars, thus the name “quasi-stellar.”

Description:

- Initially, Quasars were indistinguishable from stars as they appeared as point sources. With the advent of infrared telescopes and the Hubble telescope, Quasars were finally detected. The luminosity of various quasars is lower in the optical range and higher in the X-ray range.
- Quasars are fueled by accumulation of material into the nucleus of super-massive black hole, which are faraway galaxies.
- About 2,00,000 Quasars are known till date and all of them have similar properties. All Quasar spectra have red shifts in the range .056 and 7.085. As per the Hubble law, all these are 28.85 billion years away
- The power of these Quasars arises from the super-massive black-holes that are assumed to exist at the core of galaxies.
- They are the most luminous objects in the universe, the brightest in the constellation Virgo. Quasars reside in the center of active, young galaxies, and are amongst the most luminous, powerful, and vibrant objects known in the universe, emitting up to a thousand times the energy output of the Milky Way, that constitutes 200–400 billion stars.

Antarctica's 'Doomsday Glacier'

(Source: [Indian Express](#))

Context: *The melting of Antarctica's Thwaites Glacier – also called the “Doomsday Glacier” – has long been a cause of concern because of its high potential of speeding up the global sea level rise happening due to climate change. Researchers at Sweden's University of Gothenburg are now saying that fears related to Thwaites's melting are worse than previously thought, owing to the supply of warm water flowing underneath at a rate underestimated in the past.*

What is the glacier and why is it important?

- Called the Thwaites Glacier, it is 120 km wide at its broadest, fast-moving, and melting fast over the years.
- Because of its size (1.9 lakh square km), it contains enough water to raise the world sea level by more than half a metre. Studies have found the amount of ice flowing out of it has nearly doubled over the past 30 years.
- Today, Thwaites's melting already contributes 4% to global sea level rise each year. It is estimated that it would collapse into the sea in 200-900 years.
- Thwaites is important for Antarctica as it slows the ice behind it from freely flowing into the ocean. Because of the risk it faces — and poses — Thwaites is often called the Doomsday Glacier

The discovery of a 3,000-year-old 'lost golden city' in Egypt

(Source: [Indian Express](#))

Context: *Egypt announced the discovery of what is being touted as the most important find since the unearthing of King Tutankhamun's tomb almost 100 years ago. A three-millennia-old “lost golden city” from the era of 18th-dynasty king Amenhotep III, who ruled ancient Egypt from 1391 to 1353 B.C., was found in the southern province of Luxor, near some of the country's best-known monuments.*

What have archaeologists in Egypt discovered?

- The newly discovered city is located on the west bank of the Nile river, close to the Colossi of Memnon, Medinet Habu and the Ramesseum, or mortuary temple of King Ramses II, all of which are popular tourist destinations.
- Last year in September, archaeologists had been excavating in this area to look for a mortuary temple of King Tutankhamun, who is among the best-known figures from ancient Egypt.
- The legend of Tutankhamun, whose tomb was discovered almost intact in the Valley of the Kings in 1922 by British archaeologists Howard Carter and Lord Carnarvon, is famous on account of the vast treasure discovered at the location.
- Although their search was originally devoted to the famous ancient king, the archaeologists ended up discovering mud-brick formations “in all directions”, which eventually turned out to be a well-preserved city, an Associated Press report stated.

Why is the find significant?

- While unearthing the city, archaeologists are said to have found city walls and even rooms filled with utensils used in daily life. They have found clay caps of wine vessels, rings, scarabs, coloured pottery, and spinning and weaving tools, the AP report said.
- Some mud bricks discovered here bear the seal of Tutankhamun's grandfather King Amenhotep III, who is considered to be one of Egypt's most powerful pharaohs. The city is also believed to have been used

by Tutankhamun and his successor Ay during a period widely believed to be the golden era of ancient Egypt.

- According to a Reuters report, the site contains a large number of ovens and kilns for making glass and faience, along with the debris of thousands of statues. As per Egypt's antiquities ministry, a bakery, ovens and storage pottery were found in the southern part of the city, while the northern part — which is yet to be fully unearthed — includes administrative and residential districts.

'REGEN-COV

(Source: [The Hindu](#))

Context: *Regeneron will seek U.S. approval for its COVID-19 antibody cocktail as a preventative treatment after a trial showed it helped reduce the risk of symptomatic infections in households where someone else is ill.*

Details:

- REGEN-COV, as the combination shot of casirivimab and imdevimab is called, reduced the overall risk of progressing to symptomatic COVID-19 by 31%, and by 76% after the third day.
- The trial also demonstrated that it shortened symptom duration and markedly lowered viral levels, Regeneron said in a statement.
- The drug has emergency U.S. approval for mild to moderate COVID-19 patients, and the company is hoping the latest trial convinces regulators to expand its deployment. EU regulators have voiced some support and are letting countries decide if they want to use it.
- Beyond reducing symptomatic infection risk, the total number of weeks patients experienced symptoms was nearly halved (45%) with REGEN-COV, and the viral burden was cut by 90%-plus, potentially helping halt the disease's spread.

Raisina Dialogue-2021

(Source: [PIB](#))

Context: *The 6th Edition of the prestigious Raisina Dialogue, jointly organised by the Ministry of External Affairs and the Observer Research Foundation, will be held virtually from 13-16 April, 2021*

Overview of Raisina Dialogue

- The Raisina Dialogue is an annual Geo-political event organised by the Ministry of External Affairs in collaboration with Observer Research Foundation.
- Named after Raisina Hill, where the seat of the Government of India is located, the conference has emerged as India's premier conference on geo-politics and geo-economics.
- The Raisina Dialogue is designed as a multi-delegate, discussion platform which is attended by a wide range of global policymakers including, cabinet ministers, heads of state, private corporations executives etc. Members of the media and academia are also invited to attend the Raisina Dialogue.
- It was structured on the lines of the Shangri-La Dialogue.
- As far as India is concerned, the objective of the Raisina Dialogue are as follows:

- To explore future opportunities for Asian integration and further advancement of Asia's integration with the world at large.
- The Raisina Dialogue also asserts the crucial role played by India in the Indian Ocean Region and how it can build a stable regional/ world order with its partners.
- The theme for the 2021 conference is “#ViralWorld: Outbreaks, Outliers and Out of Control”.
- During the four-day event, talks will be based on five subjects namely, WHOse multilateralism? Reconstructing the UN and beyond; Securing and diversifying supply chains; Global ‘Public Bads’: Holding actors and nations to account; Infodemic: Navigating a ‘No-Truth’ world in the age of Big Brother; and The Green stimulus: Investing in gender, growth, and development.
- 150 speakers from 50 countries and multilateral organisations will attend the event virtually.

Narrow-Line Seyfert 1 (NLS1) galaxy

(Source: [PIB](#))

Context: *Astronomers have discovered a new active galaxy identified as the farthest gamma-ray emitting galaxy that has so far been stumbled upon. This active galaxy called the Narrow-Line Seyfert 1 (NLS1) galaxy, which is about 31 billion light-years away, opens up avenues to explore more such gamma-ray emitting galaxies that wait to meet us.*

Details:

- Astronomers have discovered a new active galaxy identified as the farthest gamma-ray emitting galaxy that has so far been stumbled upon.
- This active galaxy called the Narrow-Line Seyfert 1 (NLS1) galaxy, which is about 31 billion light-years away, opens up avenues to explore more such gamma-ray emitting galaxies.
- Scientists from ARIES, an autonomous institute of the Department of Science & Technology (DST), Government of India, in collaboration with researchers from other institutions, studied around 25,000 luminous Active galactic nuclei (AGN) from the Sloan Digital Sky Survey (SDSS) and found a unique object that emits high-energy gamma rays located at a high redshift (more than 1). They identified it as a gamma-ray emitting NLS1 galaxy, which is a rare entity in space.
 - SDSS is a major optical imaging and spectroscopic survey of astronomical objects in-operation for the last 20 years. It was founded by the University of Chicago.

Significance:

- The detection of gamma-ray emission from NLS1 challenges the idea of how relativistic jets are formed because NLS1s are a unique class of AGN that are powered by black hole of low mass and hosted in spiral galaxy.
- As of today, gamma-ray emission has been detected in about a dozen NLS1 galaxies, which are a separate class of AGN identified four decades ago.
- All of them are at redshifts lesser than one, and no method was present till date to find NLS1 at redshifts larger than one.
- This discovery opens up a new way to find gamma-ray emitting NLS1 galaxies in the early Universe.

UNFPA's population report launched

(Source: [The Hindu](#))

Details:

- Nearly half the women from 57 developing countries do not have the right to make decisions regarding their bodies, including using contraception, seeking healthcare or even on their sexuality, according to the United Nations Population Fund's (UNFPA) flagship State of World Population Report 2021 titled 'My Body is My Own'.
- This is the first time a United Nations report has focused on bodily autonomy, defined as the power and agency to make choices about your body without the fear of violence or having someone else decide for you.
- The report shows that in countries where data is available, only 55% of women are fully empowered to make choices over healthcare, contraception and the ability to say yes or no to sex. It also highlights that only 75% of countries legally ensure full and equal access to contraception.
- Some examples of violation of bodily autonomy include, child marriage, female genital mutilation, a lack of contraceptive choices leading to unplanned pregnancy, unwanted sex exchanged for a home and food or when people with diverse sexual orientations and gender identities cannot walk down a street without fearing assault or humiliation. Under its ambit also fall people with disabilities stripped of their rights to self-determination, to be free from violence and to enjoy a safe and satisfying sexual life.

The 'whitest ever' paint that can reflect 99% of sunlight

(Source: [Indian Express](#))

Context: Engineers from Purdue University in the US have created what they are calling the whitest paint yet. Buildings coated with this paint may be able to cool them off enough to reduce the need for air conditioning, the researchers have said.

What is the whitest paint?

- The team of researchers at the university created an ultra-white paint in October pushing the limits of how white paint can be. This older formulation was made of calcium carbonate, while the new one is made up of barium sulphate, which makes it more white.
- The newer paint is whiter and keeps the surface areas it is painted on cooler than the formulation before this could. If this new paint was used to cover a roof area of 1,000 square feet, it may be able to get a cooling power of 10 kilowatts, the team has said.
- Most ovens use up about 2.3 kilowatts to run for an hour and a 3 ton 12 Seasonal Energy Efficiency Ratio (SEER) air conditioner uses up about 3 kilowatts to run for an hour.
- The team has also claimed that this paint may be the closest equivalent to the blackest black paint called "Vantablack" that is able to absorb up to 99.9 per cent of visible light.
- Typical commercial white paint gets warmer rather than cooler and that paints currently available in the market that are designed to reject heat reflect only 80-90 per cent of the sunlight and therefore, they can't make surfaces cooler than their surroundings.

How do we see colours and what determines if a colour absorbs or reflects light?

- To understand how this works one needs to note that whenever an object is seen by the eye, it is either because of sunlight or the artificial light in the room.
- This light is made up of seven different colours (Violet, Indigo, Blue, Green, Yellow, Orange and Red or VIBGYOR). Specifically, light is made up of wavelengths of different colours.
- If an individual is looking at a sofa that is green, this is because the fabric or material it is made up of is able to absorb all the colours except green. This means that the molecules of the fabric reflect the green coloured wavelengths, which is what the eye sees.



- Therefore, the colour of any object or thing is determined by the wavelength the molecules are not able to absorb. Which is to say that whichever wavelength of colour is not absorbed by an object, will be the colour that the eye sees.
- For instance, if a person is looking at a bowl of vanilla ice cream or a plain white wall, it is because the molecules that make up these two are absorbing none of the wavelengths of light. This means, the entire spectrum of these coloured wavelengths if reflected from the surface, results in the white colour that the eye notices.

What determines which wavelength of light will be reflected and absorbed?

- This is dependent on how electrons are arranged in an atom (the building block of life, an atom is made up of electrons, protons and neutrons).
- These three particles make up everything in the known universe from mountains, planets, humans to pizza and cake). In contrast, if an object is black, it is because it has absorbed all the wavelengths and therefore no light is reflected from them.
- This is the reason that darker objects, as a result absorbing all wavelengths tend to heat up faster (during absorption the light energy is converted into heat energy).

Mains

GS II

What exactly is Atmanirbhar Bharat?

(Source: [The Hindu Businessline](https://www.thehindubusinessline.com))

Context: *Unless Atmanirbharta is defined properly, the BJP government will fail to effectively implement its economic philosophy.*

What is it?

- It is not protectionism. It is not inward looking. It is not just import substitution and it is not economic nationalism. This is how NDA government has chosen to explain and defend its Atmanirbhar Bharat policy.
- The Modi government's latest and most passionate economic philosophy has been at best defined negatively. We all know what it is not but very few know what it actually means.
- Amitabh Kant, CEO of NITI Aayog, attempted to throw more light on the philosophy in an article. He wrote that it (Atmanirbhar Bharat) will "make India self-reliant by creating an eco-system that will allow Indian companies to be highly competitive on the global stage". The key element here is the "need to create an eco-system" that will allow Indian companies to be globally competitive and thus making India self-reliant.
- As a first step, the government has come out with performance-linked incentive (PLI) schemes for sectors that are extensively import dependent. This should help India build the supply-chain within the country for products that are critical in the future — electronic products (including mobile phones) and active ingredients for the pharmaceutical sectors, to name a few.
- It has also extended the scheme to top exporting sectors like textiles which lacks knowledge when it comes to man-made fibres. If economists are to be believed, the PLI scheme is expected to drive India's manufacturing growth in the next few years.
- That is a good start. But creating the necessary ecosystem for India Inc to dominate the world does not mean just plugging the gaps in supply chain. This is where a better understanding of what Atmanirbharta means will help.
- Indian companies are weighed down by multiple factors that put them in a clear disadvantage vis-a-vis their competitors elsewhere in the world, apart from dependence on imports. They need to be addressed too.

Manufacturing costs:

- India is not exactly a low cost production base. It may be cheaper than developed economies but other emerging countries fare better. Take the power cost. It costs 11 cents a unit in India compared to 8 cents in Vietnam and 9 in China.
- Labour cost, in real terms, is low but if one has to factor productivity, it falls way below China, Brazil or South Korea.
- That apart, when it comes to skillset India is ranked a distant 107 in the Global Competitiveness Index compared to China's 64th rank and South Korea's 27th rank. Vietnam and Brazil are ranked 93 and 96 respectively. Indian companies are forced to spend more on training its workforce.

Logistics costs:

- At 14 per cent of GDP, India's logistics cost is way above its peers in the developed world (6-8 per cent).
- What is discomfoting is that even this data is skewed. In India logistics cost typically means transportation costs whereas in advanced economies it includes planning, procurement and warehousing on account of very high level of outsourcing.
- India's logistics cost is at least 3x compared to developed countries.

Compliance costs:

- Indian companies suffer from high regulatory and other compliance costs. Even though the government has been working to reduce this through digitalisation, it remains high and puts them at a disadvantage in the world stage.

Investment in R&D:

- Total investment in Research & Development and innovation has been on the decline over the years. It was 0.84 per cent of GDP in 2008 and in 2018 it was 0.6 per cent. Bulk of R&D spending happens in the defence and space sectors.
- In the private sector it is in auto and pharmaceutical industries. But here too, much of it is 'catching-up' with what others have already developed. Investment in cutting-edge technologies is clearly missing.

High interest rates:

- While India may be enjoying a period of low interest rates, what companies pay to borrow here is relatively much higher than say in US or Japan. Indian products can compete across the world only if interest costs drop.

Trade policies:

- Countries like Bangladesh and Vietnam are signing trade deals to become more competitive and attract investments. India's record when it comes to such deals is pathetic.
- The India-EU Free Trade Agreement, after 16 rounds of talks, is stuck in a logjam for the last seven years. Comprehensive Economic Co-operation Agreement with Australia is going nowhere after nine rounds of talks over the last eight years.

No easy solutions

- These issues have no easy solutions. Reducing power cost would mean forcing State governments to give up cross-subsiding power. It will also call for investment to evacuate coal from the mines quickly and economically. Skilling and re-skilling needs a renewed focus.
- There is a need to identify emerging skill sets and train people. Labour reforms have to be pushed forward to improve productivity.
- The government should encourage and incentivise outsourcing to reduce logistics costs. Companies that outsource more than just transportation are seeing good results thanks to better visibility and better utilisation of assets. It must also invest in infrastructure. Turnaround time at Indian ports need to be reduced sharply from 2.62 days. It is less than a day in China.
- To reduce interest costs, governments (both Centre and States) have to live within their means and more importantly, eschew populism. It should also ensure that strong companies have unfettered access to cheap funds across the globe. It must adopt a policy of 'give & take' to sign trade deals and not get bogged down by domestic lobbies.\\
- Without tackling these issues, India will not be competitive in the global stage. In other words, Atamanirbharta will remain a pipe dream. If the government is serious in implementing this economic philosophy, it should clearly list out areas which need improvement to make Indian manufacturing



competitive. It should also go a step further and announce the quantum of improvement and the time line to achieve it.

- Only then will required policies get framed and executed to bring about the change. Also, such a statement will clear all confusion in the minds of trade partners, investors and others who have been finding it difficult to understand the policy.

The abolition of FCAT

(Source: [The Hindu](#))

Context: On April 4, the Centre notified the Tribunals Reforms (Rationalisation and Conditions of Service) Ordinance, 2021, issued by the Ministry of Law and Justice. The Tribunals Reforms Bill was introduced in the Lok Sabha in February, but was not taken up for consideration in the last session of Parliament. The President later issued the ordinance, which scraps the Film Certification Appellate Tribunal (FCAT), a statutory body that had been set up to hear appeals of filmmakers against decisions of the Central Board of Film Certification (CBFC), and transfers its function to other existing judicial bodies. Eight other appellate authorities have also been disbanded with immediate effect. The ordinance has amended The Cinematograph Act, 1952, and replaced the word 'Tribunal' with 'High Court'.

When did the FCAT come into being?

- In 1983, a decision was taken to establish the FCAT, a statutory body under The Cinematograph Act, headed by a member from the legal fraternity.
- Before the FCAT, filmmakers had no option but to approach the court to seek redressal against CBFC certifications or suggested cuts.
- So, the FCAT acted like a buffer for filmmakers, and decisions taken by the tribunal were quick, though not always beyond reproach.

How important was the FCAT in the certification process?

- Films meant for distribution in theatres require to be certified as 'U' (unrestricted public exhibition), 'UA' (unrestricted public exhibition subject to parental guidance for children below the age of 12), 'A' (restricted to adult audiences) or 'S' (restricted to specialised audiences such as doctors or scientists) by the CBFC, which has an examining committee and a revising committee.
- According to observers, the CBFC was increasingly getting stacked with people close to the ruling dispensation, both the Congress and the BJP. Of late, the body has been headed by chairpersons who have ruled with a heavy hand and ordered cuts to films critical of the government.
- The clash between the film fraternity and the certification body became more pronounced in 2015 with the appointment of Pahlaj Nihalani as the chairman of the CBFC, and the FCAT had to step in often to sort out disputes.

Why has the tribunal been abolished?

- The move to abolish the FCAT along with other tribunals follows a Supreme Court order in Madras Bar Association vs. Union of India.
- In November last year, a two-member Bench directed the government to constitute a National Tribunals Commission. It said the Commission would "act as an independent body to supervise the appointments and functioning of Tribunals, as well as to conduct disciplinary proceedings against members of Tribunals and to take care of administrative and infrastructural needs of the Tribunals, in an appropriate manner".



- The top court, addressing the issue of dependence of tribunals on the executive for administrative requirements, recommended the creation of an umbrella organisation that would be an independent supervisory body to oversee the working of tribunals.
- The move to abolish the FCAT is surprising as it comes in the backdrop of the recommendations of two influential panels — the Mudgal Committee and the Benegal Committee — both of which suggested an expansion of the body's jurisdiction.

What happens now?

- Now that the FCAT has been disbanded, it will be left to the already overburdened courts to adjudicate. With the government tightening its control on over-the-top (OTT) content and ordering players in this area to set up a grievance redressal body to address the concerns of the viewers, many observers point out that the courts will have to play a greater role as an avenue of appeal.
- With cases pending for years, it is anybody's guess how long the same courts will take to adjudicate on matters of film certification.
- The role played by the FCAT, which used to handle at least 20 cases a month, will now have to be performed by courts. That includes watching and reviewing films in their entirety to understand the process of certification.

The Personal Data Protection Bill

(Source: [The Hindu](#))

Context: *The Personal Data Protection Bill, 2019, now under scrutiny by a Joint Parliamentary Committee, could play a big role in providing robust protections to users and their personal data.*

No effective protection

- How different entities collect and process users' personal data in India is mainly governed by the Information Technology Act, 2000, and various other sectoral regulations. However, this data protection regime falls short of providing effective protection to users and their personal data.
- For instance, entities could override the protections in the regime by taking users' consent to processing personal data under broad terms and conditions. This is problematic given that users might not understand the terms and conditions or the implications of giving consent.
- Further, the frameworks emphasise data security but do not place enough emphasis on data privacy. In essence, while entities must employ technical measures to protect personal data, they have weaker obligations to respect users' preferences in how personal data can be processed.
- As a result, entities could use the data for purposes different to those that the user consented to. The data protection provisions under the IT Act also do not apply to government agencies. This creates a large vacuum for data protection when governments are collecting and processing large amounts of personal data.
- Finally, the regime seems to have become antiquated and inadequate in addressing risks emerging from new developments in data processing technology.
- The need for a more robust data protection legislation came to the fore in 2017 post the Supreme Court's landmark judgment in Justice K.S. Puttaswamy (Retd) v. Union of India that established the right to privacy as a fundamental right.
 - In the judgment, the Court called for a data protection law that can effectively protect users' privacy over their personal data. Consequently, the Ministry of Electronics and Information Technology formed a Committee of Experts under the Chairmanship of Justice (Retd) B.N.

Srikrishna to suggest a draft data protection law. The Bill, in its current form, is a revised version of the draft legislative document proposed by the Committee.

The upcoming regime

- The proposed regime under the Bill seeks to be different from the existing regime in some prominent ways.
 - First, the Bill seeks to apply the data protection regime to both government and private entities across all sectors.
 - Second, the Bill seeks to emphasise data security and data privacy. While entities will have to maintain security safeguards to protect personal data, they will also have to fulfill a set of data protection obligations and transparency and accountability measures that govern how entities can process personal data to uphold users' privacy and interests
 - Third, the Bill seeks to give users a set of rights over their personal data and means to exercise those rights. For instance, a user will be able to obtain information about the different kinds of personal data that an entity has about them and how the entity is processing that data.
 - Fourth, the Bill seeks to create an independent and powerful regulator known as the Data Protection Authority (DPA). The DPA will monitor and regulate data processing activities to ensure their compliance with the regime. More importantly, the DPA will give users a channel to seek redress when entities do not comply with their obligations under the regime.
- The Bill seeks to bring a massive and meaningful change to personal data protection in India through this regime. However, the reality could be different. Several provisions in the Bill create cause for concern about the regime's effectiveness. These provisions could contradict the objectives of the Bill by giving wide exemptions to government agencies and diluting user protection safeguards.
- For instance, under clause 35, the Central government can exempt any government agency from complying with the Bill. Government agencies will then be able to process personal data without following any safeguard under the Bill. This could create severe privacy risks for users.
- Similarly, users could find it difficult to enforce various user protection safeguards (such as rights and remedies) in the Bill. For instance, the Bill threatens legal consequences for users who withdraw their consent for a data processing activity. In practice, this could discourage users from withdrawing consent for processing activities they want to opt out of.
- Additional concerns also emerge for the DPA as an independent effective regulator that can uphold users' interests.

The way forward

- The time is ripe for India to have a robust data protection regime. The Joint Parliamentary Committee that is scrutinising the Bill has proposed 86 amendments and one new clause to the Bill – although the exact changes are not in the public domain.
- The Committee is expected to submit its final report in the Monsoon Session of Parliament in 2021. Taking this time to make some changes in the Bill targeted towards addressing various concerns in it could make a stronger and more effective data protection regime.

BIMSTEC needs to reinvent itself

(Source: [The Hindu](#))

Context: *The foreign ministers of BIMSTEC (the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation) met virtually on April 1. That they made time to hold their 17th meeting is good news. They advanced the agenda, which had been arrested by the pandemic, since the last ministerial*

meeting held in August 2018. Their major task was to pave the way for the next summit, the grouping's fifth, due to be held in Sri Lanka in the "next few months".

Unfolding rejuvenation

- Established as a grouping of four nations — India, Thailand, Bangladesh and Sri Lanka — through the Bangkok Declaration of 1997 to promote rapid economic development, BIMSTEC was expanded later to include three more countries — Myanmar, Nepal and Bhutan. It moved at a leisurely pace during its first 20 years with only three summits held and a record of modest achievements.
- But it suddenly received special attention as New Delhi chose to treat it as a more practical instrument for regional cooperation over a faltering SAARC. The BIMSTEC Leaders' Retreat, followed by their Outreach Summit with the BRICS leaders in Goa in October 2016, drew considerable international limelight to the low-profile regional grouping. This also opened up the path for its rejuvenation.
- The fourth leaders' summit, held in Kathmandu in August 2018, devised an ambitious plan for institutional reform and renewal that would encompass economic and security cooperation. It took the important decision to craft a charter to provide BIMSTEC with a more formal and stronger foundation. The shared goal now is to head towards "a Peaceful, Prosperous and Sustainable Bay of Bengal Region".
- At the second swearing-in of the Modi government in May 2019, the leaders of BIMSTEC, not SAARC, were invited as honoured guests. Soon thereafter, External Affairs Minister S. Jaishankar observed that India saw a mix of "energy, mindset and possibility" in BIMSTEC.

Recent decisions

- Two and a half years after the Kathmandu Summit, the grouping stands ready to move forward. The foreign ministers cleared the draft for the BIMSTEC charter, recommending its early adoption. They endorsed the rationalisation of sectors and sub-sectors of activity, with each member-state serving as a lead for the assigned areas of special interest.
- The ministers also conveyed their support for the Master Plan for Transport Connectivity, which will be adopted at the next summit. Preparations have been completed for the signing of three agreements relating to mutual legal assistance in criminal matters, cooperation between diplomatic academies, and the establishment of a technology transfer facility in Colombo.
- What has been missing from recent deliberations is a reference to the lack of progress on the trade and economic dossier. A January 2018 study by the Federation of Indian Chambers of Commerce and Industry had suggested that BIMSTEC urgently needed a comprehensive Free Trade Agreement to be a real game changer.
- Ideally it should cover trade in goods, services and investment; promote regulatory harmonisation; adopt policies that develop regional value chains; and eliminate non-tariff barriers. Also lacking was an effort to enthuse and engage the vibrant business communities of these seven countries, and expand their dialogue, interactions and transactions. On this score, BIMSTEC remains a work in progress.
- Over 20 rounds of negotiations to operationalise the BIMSTEC Free Trade Area Framework Agreement, signed in 2004, are yet to bear fruit.
- In contrast, much has been achieved in Humanitarian Assistance and Disaster Relief and security, including counterterrorism, cyber security, and coastal security cooperation. India has led through constant focus and follow-up — to the extent that some member-states have complained about the 'over-securitisation' of BIMSTEC.
- The trick to ensure balance is not to go slow on security but to accelerate the pace of forging solid arrangements for economic cooperation.
- Similarly, while national business chambers are yet to be optimally engaged with the BIMSTEC project, the academic and strategic community has shown ample enthusiasm through the BIMSTEC Network of Policy Think Tanks and other fora.

Hurdles

- The goal now should be to overcome the obstacles leading to BIMSTEC's success.



- First, a strong BIMSTEC presupposes cordial and tension-free bilateral relations among all its member-states. This has not been the case, given the trajectory of India-Nepal, India-Sri Lanka, and Bangladesh-Myanmar ties in recent years.
- Second, uncertainties over SAARC hovers, complicating matters. Both Kathmandu and Colombo want the SAARC summit revived, even as they cooperate within BIMSTEC, with diluted zeal.
- Third, China's decisive intrusion in the South-Southeast Asian space has cast dark shadows. A renowned Bangladeshi scholar argued at a recent conference that BIMSTEC would make progress if China is accepted as its principal interlocutor and partner. This perspective has hardly any takers in India and its friendly partners in the grouping.
- Finally, the military coup in Myanmar, brutal crackdown of protesters and continuation of popular resistance resulting in a protracted impasse have produced a new set of challenges. Despite them, the BIMSTEC foreign ministers could meet virtually — but will it be as easy for the summit to be held, with the much-maligned Commander-in-Chief Min Aung Hlaing in attendance at Colombo?
- As BIMSTEC readies itself to celebrate the silver jubilee of its formation next year, it faces a serious challenge: to effect “a paradigm-shift in raising the level of our cooperation and regional integration”, as Mr. Jaishankar said on April 1. The grouping needs to reinvent itself, possibly even rename itself as ‘The Bay of Bengal Community’. It should consider holding regular annual summits.
- Only then will its leaders convince the region about their strong commitment to the new vision they have for this unique platform linking South Asia and Southeast Asia.

Navigation with permission

(Source: [The Hindu](#))

Context: On April 7, the U.S.'s 7th Fleet Destroyer, the USS John Paul Jones, conducted a 'Freedom of Navigation Operation' 130 nautical miles west of the Lakshadweep Islands inside India's Exclusive Economic Zone (EEZ). Not only was this exercise conducted without requesting India's consent, but the U.S. 7th Fleet noted in its press release that India's requirement of prior consent is “inconsistent with international law”. In its response, India asserted that the UN Convention on the Law of the Sea (UNCLOS) “does not authorize other States to carry out in the Exclusive Economic Zone and on the continental shelf, military exercises or manoeuvres, in particular those involving the use of weapons or explosives, without the consent of the coastal state”. Owing to the different positions of the two countries, legal questions emerge here. The question is, can countries carry out military exercises in another country's EEZ and if yes, subject to what conditions?

Understanding the law

- UNCLOS binds all its signatories and customary international law binds all states, subject to exceptions like the doctrine of persistent objector.
- Most of the provisions of the UNCLOS are the result of codification of the existing rules of customary international law. India is a party to the UNCLOS while the U.S. is not.
- As per the UNCLOS, EEZ is an area adjacent to the territorial waters of a coastal state where the sovereign coastal state has rights and duties relating to management of natural resources; establishment and use of artificial islands, installations and structures; marine scientific research; and protection of the marine environment.
- The present difference in legal interpretation brings into the picture Articles 58 and 87 of the UNCLOS. Article 58 (1) provides that in the EEZ, all States, whether coastal or landlocked, enjoy, subject to the relevant provisions of this Convention, the freedoms referred to in Article 87 of navigation and

overflight and of the laying of submarine cables and pipelines as well as other internationally lawful uses of the sea.

- Article 87 provides for freedom of the high seas under which all states have the freedom of navigation. However, the freedom of navigation is subject to the conditions laid down under the UNCLOS and other rules of international law.
- In addition to it, Article 58 (3) stipulates another qualification: “In exercising their rights and performing their duties under this Convention in the exclusive economic zone, States shall have due regard to the rights and duties of the coastal State and shall comply with the laws and regulations adopted by the coastal State...”
- The relevant Indian law in this regard is the Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones of India Act, 1976. Section 7 sub-section 9 of this Act recognises the freedom of navigation of the ships of all States but makes them subject to the exercise of rights by India within the zone.
- The declaration by India in 1995 also states that India “understands that the provisions of the Convention do not authorize other States to carry out in the exclusive economic zone and on the continental shelf military exercises or manoeuvres, in particular those involving the use of weapons or explosives, without the consent of the coastal State”.
- An ancillary question that emerges is the legal effect of such declarations. Article 310 of the UNCLOS does permit states to make declarations in order to explain the relationship between the Convention and their own laws, but such declarations should not “purport to exclude or to modify the legal effect of the provisions of this Convention in their application to that State”.

Negotiating concerns

- On a conjoint reading of Articles 58, 87 and 310, it can be argued that freedom of navigation cannot be read in an absolute and isolated manner.
- Given the nature of EEZ and the activities that a coastal state conducts in its EEZ, non-consensual military activities that hinder the lawful enjoyment of such rights need not be permissible. Also, a coastal state is naturally concerned about military exercises and manoeuvres posing a risk to its coastal communities, its installations or artificial islands, as well as the marine environment.
- Thus, any state which wishes to conduct such exercises must do so only in consultation with the coastal state since the coastal state is the best judge of its EEZ.
- Both India and the U.S. should negotiate such concerns for the maintenance of international peace and security.
- Riding roughshod over international obligations premised either in an erroneous interpretation of the law or the scope of its application will not only threaten friendly relations but also undermine the progress made towards codification and development of international law in an area such as the law of the sea, which is particularly complex.

Siras Act

(Source: [The Hindu](#))

Context: A law to accord an *ex post facto* pardon to those who were convicted under Section 377 of the Indian Penal Code (IPC) would do poetic justice to the LGBTQ+ community and Professor Ramachandra Siras. What happened to Siras is a perfect example of the persecution faced by the LGBTQ+ community in India. He was a Professor and head of the Department of Modern Indian Languages at Aligarh Muslim University. On a winter night in 2010, two men trespassed into Siras’ house and caught him having consensual sex with another man. Siras was suspended by AMU for “gross misconduct”. Hansal Mehta’s critically acclaimed biopic, *Aligarh* (2015), portrayed the social ostracism and mental trauma suffered by

Siras. Even though he won his case against the university in the Allahabad High Court and got his job back, Siras died a mysterious death on April 7, 2010.

Alan Turing law

- From Oscar Wilde to Alan Turing, many well-known as well as unknown people were haunted by anti-LGBTQ+ laws, and many jurisdictions repented later. A memorial in honour of the gay and lesbian victims of National Socialism stands in the city of Cologne in Germany today.
- The U.K. passed the Alan Turing law in 2017, which grants amnesty and pardon to those convicted of consensual same-sex relationships. The law is named after Alan Turing, the computer scientist who was instrumental in cracking intercepted coded messages during World War II and was convicted of gross indecency in 1952.
- The Alan Turing law provides not only a posthumous pardon but also an automatic formal pardon for living people.
- R. Raj Rao, in *Criminal Love?: Queer Theory, Culture and Politics in India* (2017), says homosexuality has always been looked upon with disfavour by three agencies universal to mankind: religion, law and medicine. Among them, the law committed the “most unkindest cut of all”.
- From 1862, when Section 377 of the IPC came into effect, until September 6, 2018, when the Supreme Court of India ruled that the application of Section 377 of the IPC to consensual homosexual behaviour between adults was “unconstitutional, irrational, indefensible and manifestly arbitrary”, the LGBTQ+ community was treated as a criminal tribe in India.

Resurrection of Naz Foundation

- The Delhi High Court’s verdict in *Naz Foundation v. Govt. of NCT of Delhi* (2009) resulted in the decriminalisation of homosexual acts involving consenting adults. The Court held that Section 377 offended the guarantee of equality enshrined in Article 14 of the Constitution, because it creates an unreasonable classification and targets homosexuals as a class.
- Justice A.P. Shah observed in the judgment that discrimination is the antithesis of equality and that it is the recognition of equality which will foster the dignity of every individual.
- In a retrograde step, the Supreme Court, in *Suresh Kumar Koushal vs. Naz Foundation* (2013), reinstated Section 377 in the IPC. Fortunately India witnessed the resurrection of Naz Foundation through the apex court’s judgment in *Navtej Singh Johar & Ors. v. Union of India* (2018).
- The spirit of *Navtej Singh Johar* should be pushed further. To make amends for the excesses committed against the LGBTQ+ community in the past and present, the Indian state should enact a ‘Siras Act’ on the lines of the Alan Turing law.
- Ex post facto pardon may be a novel concept in India, but it would do justice, even though delayed, to the prisoners of sexual conscience and Siras.

US exit from Afghanistan

(Source: [Indian Express](https://www.indianexpress.com))

Context: *The announcement by President Joe Biden that the US will withdraw all its troops from Afghanistan by September 11, 2021, the 20th anniversary of the 9/11 attacks, has sent tremors through the region’s fault-lines.*

Details:

- Unlike the Trump Administration, which made its troop withdrawal by May 1 conditional — on Taliban taking steps to prevent al-Qaeda or any other group from sheltering in Afghanistan, and agreeing to a dialogue on power sharing with the Afghan government — the Biden plan has no strings attached.



- There are about 2,500-3,500 US troops in Afghanistan at present, plus a NATO force of under 8,000. A co-ordinated withdrawal is expected to begin soon.
- The impact of this announcement on various actors within Afghanistan and outside is bound to be far-reaching. It can be said with certainty that no country in the region will remain untouched.

Afghanistan: advantage Taliban

- Biden's announcement has removed all incentives for the Taliban to agree for a dialogue with the Afghan government.
- The Taliban indicated as much: "The Islamic Emirate will under no circumstance ever relent on complete independence and establishment of a pure Islamic system, and remain committed to a peaceful solution to the Afghan problem following the complete and certain end of occupation.
- The proposal by US Secretary of State Anthony Blinken in March is now almost certainly dead in the water. It included a 90-day ceasefire; talks under the auspices of the UN for a consensus plan for Afghanistan among the US, Russia, China, Pakistan, Iran and India; and a meeting in Turkey between the Taliban and Afghan government towards an "inclusive" interim government, an agreement on the foundational principles of the future political order and for a permanent ceasefire.
- Turkey has scheduled the talks for April 24, and the Biden Administration has said it remains committed to finding a political solution. But the Taliban are now in a different zone.
- The Taliban declared in the statement that the "American officials have understood the Afghan situation" but as the withdrawal had been put off "by several months" to September, rather than stick to the Doha Agreement (signed between the Trump Administration's special envoy Zalmay Khalilzad and the Taliban last March) date of May 1, America had violated the agreement. This had "opened the way" for the Taliban to take "counter-measures", and the American side "will be held responsible for all future consequences, and not the Islamic Emirate".
- According to the Long War Journal (a project of the US-based Foundation for the Defense of Democracies), of Afghanistan's 325 districts, the Taliban are in control of 76 or 19%, and government forces 127 or 32%.
- The remaining are contested. According to the Council of Foreign Relations, the Taliban are stronger now than at any point since 2001, when US forces invaded Afghanistan.
- After the full withdrawal of troops, Taliban are likely to see the war, which they believe they have already won, to its completion. The recently published US Threat Assessment Report, an annual US intelligence briefing, said prospects for a peace deal are dim, the Taliban are confident of victory in the battlefield, and the Afghan government will struggle to hold them at bay.
- President Ashraf Ghani tweeted the stoic message that his government "respects the US decision and we will work with our US partners to ensure a smooth transition". But he and others who have invested in a democratic Afghanistan know the country is close to losing all the gains of the last 15 years.
- There is deep apprehension of a return to the 1990s, although there is also a view that the Taliban too have changed over 25 years, and would not want to alienate the international community as they did when they ruled Afghanistan during 1996-01.
- Earlier, Ghani had proposed that if the Taliban were ready to talk, he would give up what remained of his presidential term, and hold a re-election in which the Taliban were free to participate. The Taliban have always rejected elections as un-Islamic, and the government of Afghanistan as a "puppet" of the US. Ghani's proposal gained no traction.

Pakistan: gains, concerns

- This is a moment of both vindication and concern in Islamabad. The Taliban are a creation of the Pakistani security establishment. After the US invasion of Afghanistan, they removed themselves to safe havens in Pakistan territory, and the Taliban High Council operated from Quetta in Balochistan.
- It was Pakistan that persuaded the Taliban to do a deal with the Trump Administration. For the Pakistani Army, which has always seen Afghanistan in terms of "strategic depth" in its forever hostility with India,



a Taliban capture of Afghanistan would finally bring a friendly force in power in Kabul after 20 years. India, which has had excellent relations with the Karzai and Ghani governments, would be cut to size.

- But a US withdrawal also means Pakistan will need to shoulder the entire burden of the chaos that experts predict. Civil war is not ruled out and with it, the flow of refugees into Pakistan once again, even as the country struggles with refugees from the first Afghan war.
- All this at a time when the economy is flailing, and Pakistan stays afloat on an IMF loan with strict conditionalities. Plus, the Taliban are not a monolith, and have recently shown streaks of independence from Pakistan.
- It has to guard against instability in Afghanistan from spilling over the border. Pakistan's eastern front with India is quiet at the moment, so that is one headache less, but it would remain a concern for the Pakistan Army.

India: time to be wary

- New Delhi, which was hoping to be part of the Blinken initiative, would be nervous about the US withdrawal. India was on the outer edges of the Trump drive to exit Afghanistan that culminated in the Doha Accord, and was a reluctant supporter of the “intra-Afghan talks” between the Taliban and Afghan government.
- When the Biden Administration came in, India was hopeful of a US reset. The Blinken proposal gave India a role, by recognising it as a regional stakeholder, but this proposal seems to have no future.
- The Haqqani group, fostered by the ISI, would have a large role in any Taliban regime. Another concern would be India-focused militants such as Lashkar-e-Toiba and Jaish-e-Mohamed, which the Indian security establishment already believes to have relocated in large numbers to Afghanistan.

Russia, China & Iran

- China would have much to lose from instability in Afghanistan as this could have an impact on the China Pakistan Economic Corridor.
- A Taliban regime in Afghanistan might end up stirring unrest in the Xinjiang Autonomous region, home to the Uighur minority. Conversely, as an ally of Pakistan, it could see a bigger role for itself in Afghanistan.
- The US exit is for Russia a full circle after its own defeat at the hands of US-backed Mujahideen and exit from Afghanistan three decades ago. In recent years, Russia has taken on the role of peacemaker in Afghanistan.
- But both the Taliban and the Afghan government have been wary of its efforts. After a conference in March of Russia, US, China and Pakistan, along with Taliban and Afghan delegates, a joint statement by the four principals said they did not support the establishment of an Islamic Emirate, leaving the Taliban angry.
- Russia's growing links with Pakistan could translate into a post-US role for Moscow in Afghanistan.
- As a country that shares borders with Pakistan and Afghanistan, Iran perceives active security threats from both. And a Taliban regime in Kabul would only increase this threat perception. But Iran, with links to the Hazaras in Afghanistan, has of late played all sides. Despite the mutual hostility and the theological divide between the two, Iran opened channels to the Taliban a few years ago, and recently, even hosted a Taliban delegation at Tehran.

The roots of a decentred international order

(Source: [The Hindu](#))

Context: *The International Institute for Strategic Studies puts the overall estimate of China's military budget at \$230 billion). The intentions for global supremacy are apparent, chiefly to outrun the Pentagon. The primary geopolitical rivals, namely Russia and China may possibly provide the strategic and tactical*

counterbalance to the hegemony of America. Moreover, the international order is under threat of the rising economic power of the BRICS nations, with China dominating in its economic and military capacity.

Rising powers and an agenda

- Though it is a far cry from surpassing the United States in its military prowess, particularly Russia which has no ambitions of a global outreach, it is apparent that the future of global politics requires a significant programmatic agenda in the hands of the rising powers that are aggressively building a parallel economic order envisaging new centres of hegemonic power.
- It forebodes the final decline of American ascendancy that began after the end of British imperialism in the aftermath of the Suez Crisis (1956) when a wrap on the knuckles by America led to the withdrawal of Britain and France. Pax Britannica gave way to Pax Americana.
- From the Renaissance period onwards, 14th-15th century Europe began its hegemonic ambitions through trade and commerce, taking almost 500 years to colonise and influence nations across the world. The tectonic shifts in the postcolonial era saw the interrogation of Eurocentrism and its biased accounts of the East, especially with the appearance of Fanon's *The Wretched of the Earth* and Edward Said's *Orientalism* which began to propel freedom struggles against western-centric perspectives inherently inadequate and biased for the understanding of the emerging new world order.
- It was the Bandung Conference of 1955, a meeting of Asian and African states, most of which were newly independent, that set the schema for the rise of Asia, politically and economically. The confrontational stance was therefore the expected corollary in third world struggles to create a parallel order.

Dents to American supremacy

- Nevertheless, in all likelihood, America will continue to play a prime role in international affairs though its image representing universal brotherhood has sharply declined under the Trump regime, particularly his foreign policy of threatening to withdraw from the North Atlantic Treaty Organization (NATO) and withdrawing from the Paris Agreement on climate change.
- Furthermore, his bare-faced racist obsession and his handling of the marginalised immigrants has left the democratic world aghast.
- The rising tide of far-right ultra-nationalism and ethnic purity experienced in the Brexit phenomena, in Trumpism and in the promotion of the right-wing agenda in India, has set in motion the wearing down of liberal democracy.
- Other threats such as terrorism, ethnic conflicts and the warning of annihilation owing to climate change necessarily demand joint international action where American "exceptionalism" becomes an incongruity and an aberration. This indeed has chipped away at the American global supremacy.
- The world is, as a result, witness to a more decentred and pluralistic global order, a rather compelling vision of the empowerment of liberal forces standing up for an international order incentivised by long-term structural shifts in the global economy, indicating the evolving nature of power and status in international politics, especially in the context of the rising impact of Asian Regionalism on international trade and commerce.

Direction by China

- This is the evolutionary path the developing nations are already embarking on, though the current raging novel coronavirus pandemic has retarded economic development and sent many economies such as Brazil, India, Turkey and South Africa into a downward spiral.
- It is hoped that in the post-pandemic period, these economies would rise to meet the American-led liberal hegemonic world order. With China spearheading Asian regionalism, a serious challenge is possible but there is deep scepticism about China's self-enhancing economic and military greed reflecting its personal economic rise.
- China must strengthen the opposition to the West through the promotion of regional multilateral institutions. Its self-centered promotion of building its own stature through the recent concentration on

principle of the Belt and Road Initiative and the Silk Road project has, indeed provoked an understandable clash with India and Japan.

- More than having individual partners or allies, China must embrace and give a push to multilateral affiliations in order to not further exacerbate regional tensions.
- Power rivalry in a multipolar world would remain a possibility with military conflict not ruled out. It would be overly optimistic to imagine that the threat of war is behind us, though it can be safely said that it is unlikely. Regional military activity can be seen in Russia's assertion of power in Georgia and Ukraine, Turkey in the east of the Mediterranean, India's disputes with Pakistan and China's infiltration into India as well as its rivalry within its periphery.
- History is a witness to nations beginning to flex their muscles once economic rise is assured and recognised across the world. Indeed, the international state of affairs is rather fuzzy and frenzied.
- However, the capabilities of the rising economies cannot be underestimated. China and India clearly have the age-old potential to lead as, historically, they have been pioneers of some of the oldest civilisations in the world.
- Whereas, China's military capabilities must not make China lose its bearings, economically it must spearhead the challenge to the established western world that has ingrained its superiority in the consciousness of the developing world for centuries.
- China indeed is a valuable bedfellow for the launching of a union which could be a formidable challenge to the West at a stage when multifaceted transnational threats confront the world and need the collective universal attention. The fragmentation of global governance consequently can no longer be handled solely by America.
- Thus, a more nuanced understanding of power in the circumstance of the declining authority of the West has to be arrived at especially when China is still far from approaching U.S. power in just about any area, particularly in its economic or military strengths, its multinationals that lead just about in every category. Its defence advantages that are unparalleled.
- China, on the other hand, is indisputably a serious rival to the U.S. in the South China Sea, a world leader in renewable energy, and a formidable actor on the global stage of investment and trade, penetrating India, Israel, Ethiopia and Latin America.
- As Tongdong Bai writes in his book Against Political Equality, China has risen in its global power by "adopting the idea of absolute sovereignty and following the nation-state model, which is in conflict with the Western ideal that human rights override sovereignty.... But it cannot continue to rise by doing what it has been doing and it must eventually follow the liberal democratic models".
- China must remember that its growing power has compelled Anthony Blinken, the current U.S. Secretary of State, to encourage NATO members to join the U.S. in viewing China as an economic and security threat.
- Thus, a kind of dualism persists in the world order with no clear hegemony that can be bestowed on one single nation.
- Global power gradually extends across a wider range of countries, restoring contestation necessary for the smooth working of a balanced world order, thereby allowing multiple narratives to co-exist on the international level. This has implications for the functioning of a civilisation that is not controlled by the indomitable will of one.

On sharing and treaties

- The emphasis, therefore, would be a move towards restructuring and advancement, as well as adopting an oppositional posture as a robust replacement of subservience to western hegemony.
- The challenges of the 21st century can be met head on through mutual sharing of knowledge and more ground-breaking inclusive treaties.
- It is feared that there could be a possibility of a multipolar world turning disordered and unstable, but it is up to the rising nations to attempt to overcome territorial aspirations and strike a forceful note of faith on cultural mediation, worldwide legitimacy, and the appeal of each society in terms of its democratic

values. Interestingly, the sun is now setting on the empire and the rising nations are gradually waking up to a new experience of freedom and self-confidence.

GS III

Role of India amid Climate change

(Source: [The Hindu](#))

Context: *The recent visit to India by United States Special Presidential Envoy for Climate John Kerry gave an opportunity for both sides to discuss cooperation on climate change and the balance between near-term priorities and long-term targets.*

Details:

- One thing is clear: Climate action and climate leadership are being increasingly measured against a planetary imperative of emissions reducing to net-zero by 2050. This presents a conundrum for fast-growing developing countries such as India.
- They need the carbon space to develop but they are also among the most vulnerable countries to climate change. Is there an equitable way to achieve net-zero greenhouse gas emissions for the planet?
- Recent debates on whether India should declare a net-zero year or withstand mounting pressure have centred around two alternative strategies.
- The first is to delegitimise long-term targets. This view proposes focusing on measurable near-term progress, and paints the long-term (the year 2050 and beyond) as too far to be meaningful in terms of progress towards a deeply decarbonised world. The alternative approach argues that without long-term targets, the path to decarbonisation has little certainty.

Fine points

- This polarised debate needs some nuance. Consider the analogy of a retirement plan. It is a must for everyone. However young, we need to start saving now to meet the goals of a financially secure retirement.
- It would be foolish to not have a retirement plan on the grounds that it is in the distant future, that medical sciences might advance, or that we could consider retirement properly when we are richer in middle age.
- To only focus on smaller savings in our youth would ignore the compounding effect that actions today have in the long run. Planning for emissions mitigation is similar: The short- and the long-term cannot be delinked.
- Ambitious renewable energy targets, improvements in energy efficiency and fast penetration of electric vehicles are among India's critical low-carbon objectives in the next decade. Yet, rapid advances in these do not substitute for the need to set a clear direction of travel with the aim to reduce emissions to net-zero.
- Avoiding this choice makes India look like a climate laggard when its actions actually speak louder than the words of many developed countries.

India needs to replan

- India should, instead, reframe the net-zero debate from the perspective of the planet and for the prosperity of its people. India had ensured that “climate justice” was inserted in the preamble to the Paris Agreement.
- As the climate crisis unfolds, climate justice should imply that humanity respects the planetary boundary of permissible greenhouse gases but also ensures that countries assume equitable responsibility based on their past and future emissions.
- This approach would be different from merely blaming developed countries for historical emissions and, instead, would establish the criteria by which economic advancement and climate responsibility could go hand-in-hand.
- We propose a formulation that combines per capita income and aggregate emissions. The World Bank classifies a high-income economy as one with gross national per capita income of \$12,536 or more in 2019 prices.
- Any high-income country should not get more than 15-20 years to achieve net-zero emissions from 2020 onwards. This would imply that the European Union or the United States reach net-zero no later than 2035-40, rather than 2050 as they currently propose.
- China will enter this income category after 2025, so it should achieve net-zero by 2045, rather than 2060 as it proposes. India is expected to become a high-income economy around 2050, and it should target net-zero close to 2070. As a recent Council on Energy, Environment and Water report shows, today’s high-income countries would still have a much longer transition period between peaking emissions and net-zero than India would get.

Issue of aggregate emissions

- However, per capita income cannot be an excuse for inaction in correcting emissions-intensive development pathways.
- Aggregate emissions also matter. The historical (past century) and future (this century) aggregate emissions of each country not yet in the high-income category should aim to be progressively smaller than those which have achieved high-income status.
- This approach acknowledges the potential to tap into technological advances and cost reductions and reinforces the need to give a long-term net-zero signal. (This is how India benefited from falling solar costs over the past decade and was able to aim higher for its renewable energy ambitions.)
- This approach would trigger a rethink about each country’s sustainable development priorities and sectoral pathways — and create the conditions for further innovation and investment in climate-friendly infrastructure, technologies, business models, and lifestyle and behavioural changes. As the suite of mitigation technologies becomes more widely available and cheaper, all countries could achieve net-zero much earlier.
- The debate between prioritising only near-term actions versus announcing long-term net-zero goals presents a false binary. Both are needed to establish certainty of action, credibility of promises and create incentives for markets to respond.
- The real debate should be about climate justice for people and the planet. India would do well to propose alternative formulations that establish equity, differentiate the pace of desired action, and yet be progressive in its ambitions.

Petro to Electro: A new transition that will change the world

(Source: [Down to Earth](#))

Context: *The geopolitics of the world will shift from oil producing countries to the rare earth and other critical mineral producing countries in the coming years*

Details:

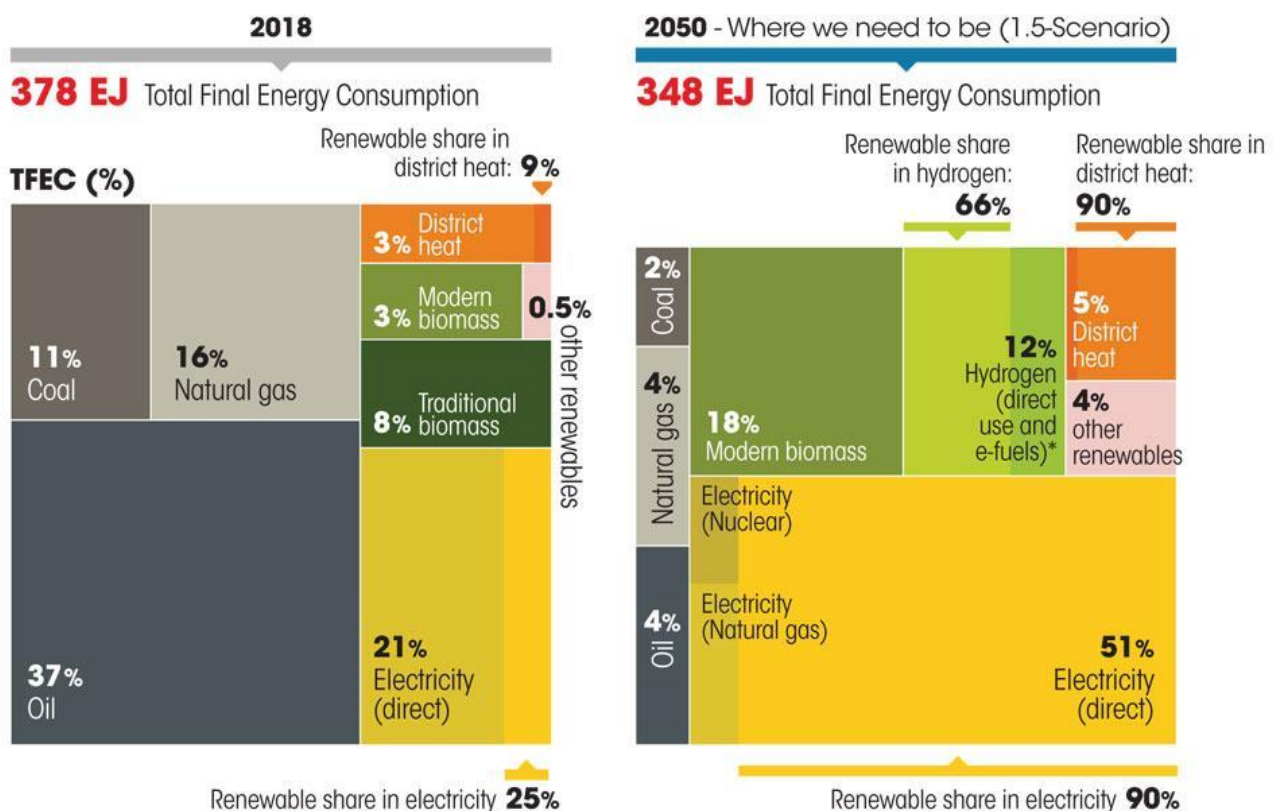
- The signals are clear. The first meeting of the heads of the four-nation Quad alliance, held virtually on March 12, 2021 pointed at the shifting sands of geopolitics. Global competition, cooperation and conflicts are no longer about missile stockpiles, nuclear arms and oil well acquisition.
- The leaders of India, Australia, Japan and the United States spent considerable time talking about “cooperation on the critical technologies of the future” to ensure that innovation is consistent with a free, open, inclusive and resilient Indo-Pacific.
- On the face of it, the summit was a show by “techno-democracies” to counter the dominance of “technoautocrats”, particularly China, in supplying materials crucial to almost every technology, from smartphones to electric vehicles (EVs) to missiles.
- Experts on international relations, however, say the sudden transformation of Quad from a fringe idea born in 2004 to a centrepiece in the countries’ Indo-Pacific strategy signals a desperation to maintain supply of these materials.
- The world is already experiencing the Fourth Industrial Revolution, an age of advanced technology based on information and communication, where artificial intelligence, self-driving cars and the internet of things are not just sweeping across businesses and societies but also evolving rapidly.
- The novel coronavirus disease (COVID-19) pandemic, which has created an urgent need for both remote work and healthcare, has accelerated deployment of these advanced applications along with 5G — the fifth generation of mobile communication — earlier than anticipated.
- Sixty-five per cent of the world’s gross domestic product (GDP) is set to be digitalised by 2022, with global spending on digital transformation reaching a staggering \$6.8 trillion between 2020 and 2023, says a December 2020 forecast by International Data Corporation, a market research company based in Massachusetts, US.
- At the same time, the worsening climate crisis dictates that the global economy must quickly decarbonise. Global carbon dioxide emissions (CO₂) need to drop to net zero by 2050 to limit the temperature rise to 1.5 degrees Celsius (°C) above pre-industrial levels, says the Intergovernmental Panel on Climate Change’s (IPCC’s) Special Report on Global Warming of 1.5°C, released in 2018.
- Since fossil fuels account for 80 per cent of global energy consumption and 75 per cent of greenhouse gas emissions, according to IPCC, countries are transitioning to cleaner energy systems like renewables and promoting energy efficiency.
- According to the United Nations’s statement in November 2020, close to 115 countries have already pledged carbon neutrality by 2050. This means 50 per cent of the world’s GDP and half of global CO₂ emissions are now covered by a net-zero commitment.
- The International Energy Agency in its Global EV Outlook 2020 states 17 countries have announced 100 per cent zero-emission vehicle targets to phase out internal combustion engine vehicles by 2050. Even the US, which sources 80 per cent of its energy from oil, coal and natural gas, is eager to pursue 100 per cent electrification under President Joe Biden and invest in the electro-economy.
- While these announcements send unmistakable market signals to investors ready to fund a faster global transition to renewables, there is mounting pressure from intergovernmental bodies to ensure that economies, as they recover from the COVID-19 pandemic, follow green recovery plans. The UN Environment Programme in its Emissions Gap Report 2020 advocates measures, including direct support to zero-emission technologies, to keep the world on a 2°C pathway.
- The growing pressure to decarbonise the transport sector in particular is so huge — the sector burns most of the world’s petroleum — that it has upended the oil industry. In its Energy Outlook 2020, UK oil major BP says that the demand for oil may have already peaked (after over 150 years of almost uninterrupted growth) and now faces an unprecedented decades-long decline.



- The demand for oil may never recover from the impact of the pandemic and may begin to fall in absolute terms for the first time in modern history. This will be replaced by clean electricity, with renewables emerging as the fastest growing energy source on record, notes the report.
- In a world where countries work towards limiting global temperature rise to 1.5°C, oil and coal production will need to decline by 85 per cent and 100 per cent respectively by 2050, while it is expected that natural gas consumption will peak around 2025 and decline thereafter, projects the International Renewable Energy Agency (IRENA), an intergovernmental body, in its World Energy Transition Outlook released this March.
- These fossil fuels will be replaced by clean electricity and by 2050, electricity would be the main energy carrier, with over 50 per cent (direct) share of total final energy use — up from 21 per cent currently, it states.
- Almost 90 per cent of the total electricity needs would be supplied by renewables, followed by six per cent from natural gas and the rest from nuclear. Transport would see the most accelerated electrification in the coming decades, with the share of EVs reaching 49 per cent by 2050, up from just one per cent currently.

Clean switch

Electricity will be the main carrier in energy consumption by 2050; the share of renewables in electricity will be 90 per cent for the world to stay on the 1.5 °C trajectory



Note: The figures above include only energy consumption, excluding non-energy uses. For electricity use, 25 per cent in 2018 and 90 per cent in 2050 is sourced from renewable sources; for district heating, these shares are 9 per cent and 90 per cent, respectively; for hydrogen (direct use and e-fuels), the RE shares (green hydrogen) would reach 66 per cent by 2050. The category "Hydrogen (direct use and e-fuels)" accounts for total hydrogen consumption (green and blue) and other e-fuels (e-ammonia and e-methanol). Electricity (direct) includes all sources of generation: renewable, nuclear and fossil fuel based. DH = district heat; EJ = exajoules; RE = renewable energy.

Source: International Renewable Energy Agency

- Investors and financial markets are anticipating this transition and moving capital from fossil fuels to energy sources like renewables.
- In 2020, the stocks of S&P Global Clean Energy Index, which lists 30 companies from around the world that are involved in clean energy-related businesses, were up by 138 per cent as compared to the fossil fuel-heavy S&P Energy Index which was down by 37 per cent.



- In August 2020, the valuation of the global e-vehicle giant Tesla reached \$380 billion and became more than the next 10 automakers combined; its valuation is now more than ExxonMobil, Shell and BP combined — the three big oil giants of the last century.
- Such massive momentum for energy transition will, along with the need to attain technology supremacy, increase countries' dependence on materials necessary for the technological marvels of tomorrow.
- The direction of global trade is already shifting from oil-bearing regions to mineral-bearing regions. The scramble to control the trade cycle by companies, countries and alliances like Quad will only intensify as the demand rises and countries become more committed to the 1.5°C pathway.
- The geopolitics of the world — its scramble for natural resources to drive its energy requirements — will shift from oil producing countries (the petro-economies) to the rare earth and other critical mineral producing countries (the electro-economies).



Current Affairs Quiz

1) Natanz Nuclear Complex is located in -

- a. Iraq
- b. Pakistan
- c. North Korea
- d. Iran

Answer : d

2) Consider the following statements with reference to river dolphins:

1. The Indus and Ganges River dolphins are same species but found in different waters.
2. Both Indus and Ganges River Dolphins are classified as 'Endangered' by the International Union for Conservation of Nature (IUCN).

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

- A Detailed analysis of South Asian river dolphins has recently revealed that the Indus and Ganges River dolphins are not one, but two separate species.

3) Which of the following statements are incorrect with respect to Municipal Bonds

1. In India interest rates generated on municipal bonds are exempt from taxation.
2. It is incentivised by Ministry of Housing and Urban Affairs under Mission AMRUT.

Which of the statements given above is/are incorrect ?

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

Answer : d

Both statements are correct

4) Which of the following states have rolled out Advanced Antiquities Management System?

- a. Punjab
- b. Karnataka
- c. Gujarat
- d. Goa

Answer : d

5) Which of the following statements is/are correct with respect to Net-Zero Target?

1. It is a plan on Co2 emissions formulated in COP15, by which a country would bring down its net carbon emission to zero.
2. It suggests absorption of the emissions through carbon sinks such as forests, and futuristic technologies such as carbon capture and storage.

Select the correct answer code:

- a. 1 only
- b. 2 only
- c. Both 1 and 2



d. Neither 1 nor 2

Answer : b

- It is also referred to as carbon-neutrality, does not mean that a country would bring down its emissions to zero. Rather, net-zero is a state in which a country's emissions are compensated by absorption and removal of greenhouse gases from the atmosphere.

6) Which of the following passes is/are not located in Himachal Pradesh?

1. Sach Pass
2. Kunzum Pass
3. Asirgarh pass
4. Chanshal Pass
5. Haldighati Pass

Select the correct answer using the codes given below:

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

Answer : d

Haldighati Pass – Rajasthan

Asirgarh pass – Madhya Pradesh

7) Consider the following statements with respect to Election Commissioners of India:

1. The Chief Election Commissioner and the two other election commissioners have equal powers and receive equal salary and allowances, similar to those of a judge of the Supreme Court.
2. In case of difference of opinion amongst the Chief Election Commissioner and/or two other Election Commissioners, the matter is decided by the Commission by majority.

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

8) Which of the following statements is/are correct with respect to Brucellosis?

1. It is a fungal disease caused by Blastomyces which causes respiratory disease in human.
2. Brucellosis is often spread when people eat contaminated food, which may include raw meat and unpasteurized milk.

Select the correct answer code:

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

Answer : a

9) Consider the following statements with respect to 100% Sustainable Fuels:

1. It essentially represents the 3rd Generation biofuels which typically are made from by-products of industrial or agricultural waste and Algae.
2. Federation of International Automobile had developed a 100% sustainable fuel which is intended for commercial use by 2026.

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

10) In which one of the following States is Manas National Park located?

- a) Assam
- b) Sikkim
- c) Himachal Pradesh
- d) Odisha

Ans. a

11) Consider the following statements with reference to the monsoon:

1. The long period average (LPA) refers to the average all-India monsoon rainfall of 88 cm, which is a 50-year mean.
2. The monsoon in 2019 and 2020 was only the third time in a century of back-to-back years of above normal rainfall during the season in India.

Which of the statements given above is/are correct?

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

Ans. c)

12) Consider the following statements with reference to the Production Linked Incentive (PLI) Scheme for Promotion of Domestic Manufacturing of critical Key Starting Materials (KSMs)/ Drug Intermediates and Active Pharmaceutical Ingredients (APIs):

1. The scheme has been launched by the Department of Pharmaceuticals for promotion of domestic manufacturing of KSMs/APIs.
2. The Indian pharmaceutical industry is the 3rd largest in the world by volume.

Which of the statements given above is/are correct?

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

Ans. c)

13) Consider the following statements with reference to the e-SANTA:

1. It is an electronic marketplace providing a platform to connect aqua farmers and the buyers.
2. It is an initiative of Union Ministry of Agriculture.

Which of the statements given above is/are correct?

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

Ans. a

Union Commerce and Industry Minister inaugurated e-SANTA, an electronic marketplace providing a platform to connect aqua farmers and the buyers.

14) Gangavaram deep-water port is located at:

- a) Odisha
- b) Andhra Pradesh
- c) Tamil Nadu

d) Karnataka

Ans. b)

15) What is Narrow-Line Seyfert 1 (NLS1), recently seen in news?

- a) New active galaxy
- b) Newly discovered planet
- c) Ransomware
- d) An ocean boundary line between Europe and USA

Ans. a)

16) With reference to the Poshan Gyan, consider the following statements:

- 1. It is a national digital repository on health and nutrition.
- 2. It is an initiative of Union Ministry of Science and Technology.

Which of the statements given above is/are correct?

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

Ans. a)

NITI Aayog, in partnership with Bill and Melinda Gates Foundation and Centre for Social and Behaviour Change, Ashoka University, launched Poshan Gyan, a national digital repository on health and nutrition.

17) Consider the following statements with respect to Aahaar Kranti

- 1. It is a national digital repository on health and nutrition to tackle the challenges of knowledge awareness and behaviour change in the nutrition sector.
- 2. It was launched by the NITI Aayog and Bill and Melinda Gates Foundation (BMGF).

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 : d

- Union Health Minister Harsh Vardhan has recently launched the Aahaar Kranti Movement.
- The mission is aimed to spread the message of the need for a nutritionally balanced diet and to understand the importance of accessible to all local fruits and vegetables.

18) Consider the following statements with respect to mRNA vaccines:

- 1. They are non-infectious, non-integrating in nature, and degraded by standard cellular mechanisms.
- 2. They are highly efficacious because of their inherent capability of being translatable into the protein structure inside the cell cytoplasm.
- 3. They are fully synthetic and do not require a host, like eggs or bacteria, for growth.

Which of the statements given above are correct?

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

Answer : d

19) Consider the following statements with respect to Raisina Dialogue, 2021:

- 1. It is India's informal strategic dialogue with the United States, Japan, Australia and India.
- 2. The theme for the 2021 Edition is Viral World: Outbreaks, Outliers and Out of Control.



3. It will be jointly organised by the Ministry of External Affairs and the Observer Research Foundation (ORF).

Which of the statements given above is/are correct?

- a. 2 only
- b. 3 only
- c. 2 and 3 only
- d. None of the above

Answer : c

- It is India's premier conference on geopolitics and geo-economics committed to addressing the most challenging issues facing the global community.
- The conference is hosted by the Observer Research Foundation in partnership with the Ministry of External Affairs, Government of India.

20) Gyanvapi Mosque in Varanasi was constructed during the reign of -

- a. Muhammad-Bin-Tughlaq
- b. Akbar
- c. Alla-ud-din Khilji
- d. Aurangzeb

Answer : d