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GS 2 : Polity, Governance, International Relations

1. India invited to become full-time IEA member

International Energy Agency (IEA) has invited India, the world's third-largest energy consumer, to become its full-time member.

International Energy Agency (IEA)

- The IEA is an autonomous intergovernmental organization established in the framework of the Organisation for Economic Co-operation and Development (OECD) in 1974 in the wake of the 1973 oil crisis.
- Based in Paris, IEA was initially dedicated to responding to physical disruptions in the supply of oil, as well as serving as an information source on statistics about the international oil market.
- In the decades since, its role has expanded to cover the entire global energy system, encompassing traditional energy sources such as oil, gas, and coal as well as cleaner and faster growing ones such as solar PV, wind power and biofuels.
- It is best known for the publication of its annual World Energy Outlook.

Role and responsibility

- The Agency's mandate has broadened to focus on providing analysis, data, policy recommendations and solutions to help countries ensure secure, affordable and sustainable energy for all.
- In particular, it has focused on supporting global efforts to accelerate the clean energy transition and mitigate climate change.
- The IEA has a broad role in promoting rational energy policies and multinational energy technology co-operation with a view to reaching net zero emissions.

India and IEA

- India, in March 2017, became an associate member of the Paris-based body which advises industrialised nations on energy policies.
- Today the IEA acts as a policy adviser to its member states, as well as major emerging economies such as Brazil, China, India, Indonesia and South Africa

to support energy security and advance the clean energy transition worldwide.

Significance of the invitation

- This proposal if accepted will require New Delhi to raise strategic oil reserves to 90 days requirement.
- India is becoming increasingly influential in global energy trends.

2. India to attend G20 virtual meeting on Afghanistan

In News : Indian Prime Minister will attend an extraordinary virtual meeting of G20 leaders on Afghanistan to be held on October 12.

- The G20 meeting is likely to deliberate on both political as well as humanitarian issues regarding the country.

G20

- The G20 is the international forum that brings together the world's major economies. Its members account for more than 80% of world GDP, 75% of global trade and 60% of the population of the planet.
- The G20 comprises **19 countries and the European Union**. The 19 countries are Argentina, Australia, Brazil, Canada, China, Germany, France, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom and the United States
- The forum has met every year since 1999 and includes, since 2008, a yearly Summit, with the participation of the respective Heads of State and Government.
- Italy is the current chair of G20.

3. SC on National Green Tribunal (NGT)

In News : The Supreme Court has declared the National Green Tribunal's (NGT) position as a "unique" forum endowed with suo motu (action taken by a court of its own accord) powers to take up environmental issues across the country.

Key takeaways from SC's judgement

- The exercise of power by the NGT is not circumscribed by the receipt of applications.

- When substantial questions relating to the environment arise and the issue is civil in nature and those relate to the Act, the NGT, even in the absence of an application, can self-ignite action either towards Improvement or towards prevention of harm.
- The court explained that the role of the NGT was not simply adjudicatory in nature. The Tribunal has to perform equally vital roles that were preventative, ameliorative (improvement) or remedial in nature.
- NGT is a complimentary, competent, specialised forum to deal with all environmental multidisciplinary issues both as original and also as an appellate authority.

NGT

- It is a statutory body established in 2010, as per the National Green Tribunal Act.
- It is a specialised judicial body equipped with expertise solely for the purpose of adjudicating environmental cases in the country.
- The chairperson of the NGT is a retired judge of the Supreme Court
- It shall not be bound by the procedure laid down under the Code of Civil Procedure, 1908 but shall be guided by principles of natural justice.
- Tribunal's orders are binding and it has power to grant relief in the form of compensation and damages to affected persons.

4. The next step is a constitutional right to health

Background:

- The **COVID-19 pandemic has exposed and aggravated the cracks in India's healthcare systems** and also brought to light the significance of the health sector in a country. The under resourced health sector in India struggled amid the pandemic to cater to the needs of the people.
- The government has come up with several new initiatives including new and enhanced investment to address the serious drawbacks in the healthcare sector.
- However, the author, Kailash Satyarthi expresses doubts over the effectiveness of such investments to translate into a sense of health security for the citizens. In this regard the **author argues for the declaration of health care as a Fundamental Right.**

Details:

- The constitutional 'Right to Health for all' could have **many positive impacts.**

- A fundamental right to health approach would **provide the much needed medical financial security to the poor sections of the society**. This will help **reduce out of pocket expenditure** for such sections of the society which often pushes them into debt trap and poverty. The implementation of the right to health can **provide simple, transparent and quality health care** to those who are most in need of such care. The medical financial security will also have a long-term positive impact on the emotional, psychological and social security of such people.
- Significantly a fundamental right to health approach will **ensure better access to medical facilities for vulnerable sections like women** by helping address social and economic challenges that prevent them from freely and openly accessing health care facilities. A 'Right to Health' would mean that services reach the woman where and when she needs them.
- A fundamental right to health approach will also help ensure that the **large number of children who belong to the poorest and most marginalised communities have access to quality and affordable healthcare facilities**.
- A constitutional 'Right to Health' will transform not only the health and well-being of our people but will act as a **leap for the economic and developmental progress** of the nation. The immediate financial security that will come with the constitutional 'Right to Health' will have a measurable impact on family savings, greater investment, and jobs creation.

Conclusion:

- The **vision for Ayushman Bharat will be strengthened with a constitutional 'Right to Health'** and the government should consider this seriously.

GS 3 : Economy, Science and Technology, Environment

5. Economics Nobel for research on wages, jobs

In News :

The Nobel prize for economics has been awarded to U.S.-based economist David Card for research on how minimum wage, immigration and education affect the

labour market. The prize was shared with two, Guido Imbens and Joshua Angrist for creating a way to study these types of societal issues.

Details:

- David Card's pioneering research challenges commonly held ideas.
- It showed that:
 - an increase in minimum wage does not lead to less hiring
 - One conclusion was that companies are able to pass on the cost of higher wages to customers by raising prices.
 - In other cases, if a company was a major employer in a particular area, it may have been able to keep wages particularly low, so that it could afford to pay a higher minimum without cutting jobs.
 - immigrants do not lower pay for native-born workers
 - It was found that the incomes of those who are native-born workers can benefit from new immigrants, while immigrants who arrived earlier are the ones at risk of being negatively affected.
 - This minimum wage research fundamentally alters economists' views of such policies.
 - Card's work on minimum wage is an example of a "natural experiment," or a study based on observation of real-world data. The problem with such experiments is that it can sometimes be difficult to isolate cause and effect.
 - Imbens and Angrist developed statistical methods to get around these challenges and determine more precisely what can actually be said about the causes and effects of natural experiments.

Note:

Unlike the other Nobel prizes, the economics award wasn't established in the will of Alfred Nobel but by the Swedish central bank in his memory in 1968, with the first winner selected a year later. It is the last prize announced each year.

6. Tackling the climate crisis

Background:

The threat posed by climate change:

- According to the **Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report**, the past decade (2011-2020) was warmer by 1.09°C than

the period from 1850 to 1900, and the **1.5°C global warming threshold set as per the Paris Climate agreement is likely to be breached very soon.**

- This is likely to lead to **severe weather events** leading to large scale death and destruction. This will derail the global development process.
- Countries like India are likely to face more intense heat waves, heavy monsoons and rise in weather extremes in the future.
 - The **Global Climate Risk Index (2021) ranked India the seventh-most affected country by weather extremes.**
- Such a scenario necessitates **immediate climate action. Mitigation measures** are required to reduce GHG emissions and limit global warming. Also given the escalating climatic risks, there is an urgency to adopt suitable **adaptation strategies** as well.

Climate action measures being taken in India:

Mitigation:

- India has been taking critical mitigation commitments for reducing emission intensity and enhancing renewable capacity.
 - NITI Aayog in collaboration with US-based Rocky Mountain Institute (RMI) and RMI India, has launched a campaign named **Shoonya**, to promote zero-pollution delivery vehicles by working with consumers and industry. The campaign will **promote the adoption of electric vehicles (EVs)** in the urban deliveries segment and create consumer awareness about the health, environmental and economic benefits of electric vehicles.
 - The **National Mission for Enhanced Energy Efficiency** announced as part of India's National Action plan for climate change aims for a **reduction in energy and carbon intensity of the economy** in a bid for more sustainable economic growth.
 - India aims to have 175 GWs by 2022 and **450 GWs of renewable energy capacity by 2030.**
 - India has set ambitious solar energy missions. As part of its **National Solar Mission, India has set itself a target of 100 GW of solar power by 2022.**
 - In a bid to adopt more environmentally sustainable energy sources India has also announced the setting up of a **green hydrogen mission.**

Adaptation:

- While taking necessary steps towards mitigation measures, given India's vulnerability to climate change India has accorded equal importance to adaptation measures as well and has taken the following measures.

- The National Mission on Sustainable Habitat, **Water Mission**, Mission for Sustaining Himalayan Ecosystem and the **Mission for Sustainable Agriculture** all aim at **streamlining adaptation measures in critical sectors**.
 - **National Innovations on Climate Resilient Agriculture** launched by the Indian Council of Agricultural Research aims at strategic research, technology demonstrations and capacity building to make the critical agricultural sector more resilient to climate changes.
- The **National Adaptation Fund for Climate Change (NAFCC)** has been established to meet the cost of adaptation to climate change for the State and Union Territories of India that are particularly vulnerable to the adverse effects of climate change.
 - **NABARD has been designated as the National Implementing Entity (NIE)** for the implementation of adaptation projects under NAFCC by Govt. of India.

Need for a more robust adaptation strategy:

- While laudable measures are being taken, adaptation planning needs to go beyond a business-as-usual approach given the **existential threat posed by climate change**. Climate change poses grave threats to water, food and livelihood security as is evident from the increasing instances of severe climate events leading to rising poverty levels and increased instances of distress migrations.
- A breakthrough on adaptation and resilience actions is needed to **save hard-earned developmental gains and adjust to new climate conditions**.

Recommendations:

- **Proactive and timely need-based adaptation measures** are the need of the hour. To strengthen adaptation and resilience, India can consider the following measures.

Improving forecasting capability:

- Given the criticality of early warning systems in reducing the vulnerability to climate disasters, India should focus on **improving its forecasting capability with an emphasis on high-quality meteorological data**.
- Premier research institutes must be roped in to **develop regional climate projections for robust risk assessments**.

Nature-based solutions:

- Nature-based solutions should be promoted. There is a need to **protect mangroves and forests** to address climate-related risks by blending traditional knowledge with scientific evidence.
 - Nature-based solutions are actions to protect, sustainably manage, and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.

Decentralized approach:

- Responses to climate change vary from place to place as there are differences in production systems, agro-climatic and socio-economic conditions. This necessitates the need to **encourage local and non-state actors** to actively participate in adaptation measures against climate change.
- Also, adaptation planning requires **governance at different levels to understand, plan, coordinate, integrate** and act to reduce vulnerability and exposure.
- Such an approach will help systematically **understand micro-level sensitivities**, plan resource allocation, and design responses to serve at different levels of intensities of climate hazards.
- Such an approach will also **allow for continuous monitoring and evaluation** which will help in ensuring effective feedback mechanisms for any possible mid-course correction.

Integrated approach:

- A **development-centric approach that aligns climate change, food security, and livelihood perspectives** and takes into consideration regional specificities is inevitable in the present scenario.

Involving the private sector:

- A **more collaborative approach towards climate change adaptation involving the public and private sectors is crucial.**
- There is the need to **encourage private sector participation** for investment in adaptation technologies and for designing and implementing innovative climate services and solutions in areas such as agriculture, health, infrastructure, insurance and risk management.
- The government should work towards **promoting new business and climate service opportunities across various economic sectors** to incentivize private participation. This will not only speed up adaptation measures but also help open up green growth opportunities in the Indian economy.

Promoting sustainable products and their usage:

- India should work towards the development of well-functioning markets for environmentally friendly products and disseminate them for the desired behavioural change.

Other measures:

- India should focus on creating **resilient infrastructural assets**, diversifying the economy and **enhancing the adaptive capacity of the most vulnerable sections** of the society through appropriate social protection schemes.

7. Industry seeks clarity on space policy

In News:

Inauguration of the Indian Space Association (ISpA).

Indian Space Association:

- Indian Space Association is an organisation meant to represent the interests of the space sector with government and private sector bodies across the board.
- It includes the Indian Space Research Organisation, Walchandnagar Industries, TATA Nelco, Pixxel, Mapmy India and Bharti Airtel.
- It will act as an umbrella for all public and private entities contributing to the development of India's space sector.
- It will undertake policy advocacy and engage with all stakeholders in the Indian space domain, including the government and its agencies.
- The initiative will provide the Indian space sector with four pillars and will promote higher participation of private entities. The four pillars being:
 - The freedom of innovation to the private sector
 - The role of the government as an enabler
 - Preparing youth for the future
 - To see the space sector as a resource for the progress of the common man
- It would lead to better mapping, imaging and connectivity facilities for the common people.
- Also, the space sector implies better speed from shipment to delivery for entrepreneurs, this also means better security and income for fishermen and better forecast of the natural calamity.

Details:

- Ahead of major launches in 2022, India has announced its intent to liberalise the space sector and have more private companies use the facilities of the

ISRO for developing as well as launching satellites. While there have been drafts of a new space policy, these are yet to take shape.

- In this backdrop, the industrialists have sought a clearer picture of the government's space policy at the earliest.
- They suggested that, for the space industry to grow, the government should help small and medium sector enterprises (SME) access more capital as well as move faster on finalising its space policy.
- They have requested flexibility for satellite frequency users to use any frequency range and to be able to freely buy technology from abroad.

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. Europe as a valuable strategic partner

In News :

Last week's in-person summit in Delhi was with the Danish prime minister, Mette Frederiksen.

Europe as a valuable partner

- Few Asian countries view Europe with strategic suspicion. Many in Asia see Europe as a valuable partner.
- As the deepening confrontation between the US and China begins to squeeze South East Asia, **Europe is widely seen as widening the strategic options for the region.**
- The perspective is similar in Delhi, which now sees Brussels as a critical element in the construction of a multipolar world.
- **Cultivate Europe:** As External Affairs Minister Subrahmanyam Jaishankar puts it, India's strategy is to **"engage America, manage China, cultivate Europe, reassure Russia, bring Japan into play"**.
- **EU's Strategy for India:** The EU outlined a **strategy for India in 2018** to focus on four themes – sustainable economic modernisation, promotion of a rules-based order, foreign policy coordination, and security cooperation.
- At the summit in Portugal in May this year, the EU and India agreed to **resume free trade talks and develop a new connectivity partnership** that would widen options for the world beyond the Belt and Road Initiative.

- **Rebalancing the international system:** Above all, there is a recognition in both Delhi and Brussels that the India-EU strategic partnership is crucial for the **rebalancing of the international system** amidst the current global flux.

Possibilities with smaller European countries

- Europe looms so large in the Indian diplomatic agenda today and **smaller European states** draw unprecedented political attention from Delhi.
- That Denmark, a country of barely six million people, can establish a significant green partnership with India, is a reminder that smaller countries of Europe have much to offer in India's economic, technological, and social transformation.
- Luxembourg brings great financial clout, Norway offers impressive maritime technologies, Estonia is a cyber power, Czechia has deep strengths in optoelectronics, Portugal is a window to the Lusophone world, and Slovenia offers commercial access to the heart of Europe through its Adriatic sea port at Koper.
- As India begins to realise this untapped potential, there are new openings with the 27-nation EU headquartered in Brussels.

EU's important role in Indo-Pacific

- **The EU's Indo-Pacific strategy** is likely to have a much greater impact on the region more immediately and on a wider range of areas than military security.
- Area's of impact range from **trade and investment to green partnerships**, the construction of quality infrastructure to **digital partnerships**, and from **strengthening ocean governance** to promoting research and innovation.
- **Defence and security** are important elements of the EU's Indo-Pacific strategy that "seeks to promote an open and rules-based regional security architecture, including secure sea lines of communication, capacity-building and enhanced naval presence in the Indo-Pacific.
- Whatever the specific circumstances of the AUKUS deal and its impact on France, the US wants all its partners, especially Europe, to contribute actively to the reconstitution of the Asian balance of power.
- **Working with Quad:** The EU strategy, in turn, sees room for working with the Quad in the Indo-Pacific, while **stepping up security cooperation with a number of Asian partners**, including India, Indonesia, Japan, the Republic of Korea, Singapore and Vietnam.
- India is conscious that Europe can't match America's military heft in the Indo-Pacific.
- But it could help strengthen the military balance and contribute to regional security in multiple other ways.

Conclusion

It was Russia that defined India's discourse on the multipolar world after the Cold War. Today, it is Europe – with its much greater economic weight, technological strength, and normative power – that promises to boost India's own quest for a multipolar world and a rebalanced Indo-Pacific.

2. Patrolling Points along LAC

The standoffs between Indian and Chinese troops in Ladakh on the Line of Actual Control (LAC), where initial steps towards disengagement have taken place, are around a number of patrolling points or PPs in Galwan, Hot Springs and Gogra areas.

Patrolling Points

- PPs are patrolling points identified and marked on the LAC, which are patrolled with a stipulated frequency by the security forces.
- They serve as a guide to the location of the LAC for the soldiers, acting as indicators of the extent of 'actual control' exercised on the territory by India.
- By regularly patrolling up to these PPs, the Indian side is able to establish and assert its physical claim about the LAC.

Are all the Patrolling Points numbered?

- Some of the PPs are prominent and identifiable geographical features, such as a pass, or a nala junction where no numerals are given.
- Only those PPs, where there are no prominent features, are numbered as in the case of PP14 in Galwan Valley.

Are all on the Patrolling Points bang on the LAC?

- Mostly, yes. Except for the Depsang plains in northern Ladakh, where PP10, PP11, PP11A, PP12 and PP13 – from Raki Nala to Jivan Nala – do not fall on the LAC.
- These are short of the LAC, on the Indian side.

Are these Patrolling Points not manned?

- The PPs are not posts and thus not manned.

- Unlike on the Line of Control (LoC) with Pakistan, the border with China is not physically held by the Army all along.
- They are just physical markers on the ground, chosen for their location and have no defensive potential or tactical importance for the Army.

If the Patrolling Points are not manned, how is the claim actually asserted?

- The claim is asserted by the Army or joint Army-ITBP patrols as they show more visible presence in these areas.
- This is done by physically visiting PPs with a higher frequency, as the deployment has moved closer to the LAC and due to improved infrastructure.
- As the Chinese may not see when the Indian patrols visit these PPs, they will leave come cigarette packets or food tins with Indian markings behind.
- That lets the Chinese know that Indian soldiers had visited the place, which indicates that India was in control of these areas.

Who has given these Patrolling Points?

- These PPs have been identified by the high-powered China Study Group, starting from 1975 when patrolling limits for Indian forces were specified.
- It is based on the LAC, after the government accepted the concept in 1993, which is also marked on the maps with the Army in the border areas.
- But the frequency of patrolling to PPs is not specified by the CSG - it is finalised by the Army Headquarters in New Delhi, based on the recommendations made by the Army and ITBP.

What is this frequency?

- The frequency of reaching various PPs are given in the annual patrolling programme.
- Based on the terrain, the ground situation and the location of the LAC, the duration for visiting each PP is specified - it can vary from once a month to twice a year.

Major friction area: Hot Springs

- Hot Springs lies in the Chang Chenmo River valley, close to Kongka La, a pass that marks the Line of Actual Control.
- India's Patrolling Point 15, it is not a launchpad for any offensive action though the area did see action before and during the 1962 war.
- China's unwillingness to pull back its platoon-sized unit from Hot Springs is a sign of the difficulties that lie in normalising the situation.
- The PLA has traditionally had a major base east of Kongka La.

- The pass also marks the border between two of China's most sensitive provinces – Xinjiang to the north and Tibet to the south.

3. UN biodiversity Summit

In News : A key UN summit tasked with protecting biodiversity opened in China online, as countries meet to protect ecosystems and prevent mass extinction weeks before the COP26 climate conference.

Key takeaways

- Beijing is the world's biggest polluter.
- It has sought to position itself in recent years as a world leader on environmental issues.
- The online summit shall hold a face-to-face meeting in April 2022.
- It will see parties to the Convention on Biological Diversity (CBD) discuss new targets for protecting ecosystems by 2030.
- It shall also debate on the "30 by 30" plan to give 30% of land and oceans protected status by 2030
 - It is a measure supported by a broad coalition of nations, as well as a goal to halve the use of chemicals in agriculture and stop creating plastic waste.

The Convention on Biological Diversity (CBD)

- It is known informally as the Biodiversity Convention, is a multilateral treaty.
- The convention has three main goals:
 - the conservation of biological diversity (or biodiversity);
 - the sustainable use of its components;
 - and the fair and equitable sharing of benefits arising from genetic resources.
- **Objective:** To develop national strategies for the conservation and sustainable use of biological diversity.
- It is often seen as the key document regarding sustainable development.
- The convention was opened for signature at the Earth Summit in Rio de Janeiro on 5 June 1992 and entered into force on 29 December 1993.
- It has two supplementary agreements, the Cartagena Protocol and Nagoya Protocol.

GS 3 : Economy, Science and Technology, Environment

4. Decoding RBI's monetary policy statement

In News :

The Monetary Policy Committee of the RBI kept the benchmark policy rates unchanged, and retained the accommodative stance in its October review.

Factors playing part in monetary policy decisions

- It's important to remember that monetary policy these days is influenced by both **local macroeconomic developments and the global monetary policy direction**, with the former playing a dominant role.
- Locally, after the second wave of the pandemic, a variety of indicators such as the **Purchasing Managers Index** (manufacturing and services), **mobility indicators, government tax collections, exports and imports** are pointing at an improvement in economic activity.
- Then there is the good news on the monsoon front. With a late pick-up in rains, the cumulative deficiency in this monsoon season has come down to just 1 per cent of the long-period average (LPA).
- Since the MPC's August 2021 policy review, Covid-19 cases have trended down and there has been admirable progress on the vaccination front.
- Also, despite high year-on-year growth numbers, the level of economic activity this fiscal will only be 1.5 per cent above 2019-2020.

Trends emerging from the economic recovery

- **Role of government:** Capital expenditure of both the Centre and states is on track to meet the budgetary commitment, supported by healthy tax collections.
- **Large companies on recovery path:** Large companies in industrial sectors such as steel, cement, non-ferrous metals are operating at healthy utilisation levels, and have deleveraged their balance sheets.
- **Policy support for smaller companies:** The going is not so good for the smaller ones.
- Clearly, smaller companies need policy support. The extension of the **Emergency Credit Line Guarantee Scheme** is a recognition of that.
- **Private consumption is not broad-based** either.

- Even in goods consumption, which is faring better than services, the nature of demand seems skewed towards relatively higher-value items such as cars and utility vehicles.
- This probably reflects the income dichotomy spawned by the pandemic.
- **Inflation:** Its fall to 5.3 per cent in August offers only limited comfort for two reasons.
- One, **core and fuel inflation**, which have **54 per cent weightage in CPI**, remain stubbornly high.
- Second, food prices have nudged down overall inflation.
- Domestic growth-inflation dynamics suggest that the RBI has little option but to remain more tolerant of persistent price pressures, and hope that these will eventually **prove transitory** because they have been primarily driven by **supply shocks caused by the pandemic**.

Global monetary policy environment

- Globally, the monetary policy environment is veering towards **normalisation/tapering/interest-rate rise** largely due to an upward surprise in inflation, or because some central banks feel the objectives of quantitative easing have been met.
- Central banks in advanced economies such as Norway, Korea and New Zealand have recently raised rates.
- The two systemically important central banks – the US Federal Reserve (Fed) and the European Central Bank (ECB) – view the current spike in inflation as fleeting and have communicated greater tolerance for it for a longer period.

Conclusion

The process of mopping up excess liquidity will slowly gain pace over the next few months, followed by a policy rate hike sometime around early 2022. By then, there should be enough clarity on the third wave and the stance of the Fed and the ECB.

5. Economics Nobel for Natural Experiments

The 2021 Nobel Prize in Economic Sciences was awarded to three US-based economists.

Who are the awardees?

- Nobel Committee awarded half the Prize to **David Card** for his “empirical contributions to labour economics”

- Other half to **Guido Imbens** and **Joshua Angrist** “for their methodological contributions to the analysis of causal relationships”

What makes this year’s award special?

- This is the first time the economic prize has been divided in this fashion with one half going to one awardee and other half divided across two awardees.
- In the past, prize money was divided equally between the awardees even if the prize was for different topics as is the case this time around.
- It may appear that the Nobel Prize has been given for two different contributions, but there is a common theme: “natural experiments.”

What are Natural Experiments?

- Economists are often interested in causal questions such as the impact of education on incomes, impact of COVID-19 on poverty and so on.
- They are also interested in understanding the direction of causality.
- Economists have used two kinds of experiments to study these causality and direction of causality questions: random experiments and natural experiments.

(I) Random experiments

- Under randomized experiments, the researchers allocate say medicines to a treatment group and compare the effect of the medicine with the control group which is not given the medicine.
- In 2019, the Nobel Committee gave awards to three scholars for their contribution to the field of randomized experiments.
- However, one cannot randomize experiments to study issues such as why certain people and regions are more unequal or have fewer educational opportunities and so on.

(II) Natural experiments

- In natural experiments, economists study a policy change or a historical event and try to determine the cause and effect relationship to explain these developments.
- The trio used such natural experiments to make some landmark contributions to economic development.
- Natural experiments are more difficult for two reasons. The first is to identify what will serve as a natural experiment.
- Second, in a random experiment, the researcher knows and controls the treatment and control groups which allows them to study the cause and effect of medicine.

- But in natural experiments, such clear differentiation is not possible because people choose their groups on their own and even move between the two groups.
- Despite the limitations, the researchers could use the natural setting to answer some big policy questions.

Natural experiments conducted by David Card

- One question of interest for policymakers is to understand the impact of higher minimum wages on employment.
- Earlier studies showed that increasing minimum wages leads to lower unemployment.
- Economists were also not sure of the direction of causation between minimum wages and employment.
- Say a slowdown in the economy leads to higher unemployment amid lower income groups.
- This could lead to lower income groups demanding higher minimum wages. In such a case, it is higher unemployment which leads higher minimum wages.

Contribution of Angrist and Imbens

- Angrist and Imbens showed how natural experiments can be used to identify cause and effect precisely.
- We have discussed above how natural experiments make it difficult to separate control and treatment groups. This makes it difficult to establish causal relations.
- In the 1990s, the duo developed a methodology – Local Average Treatment Effect (or LATE) – which uses a two-step process to help grapple with these problems of natural experiments.
- Say, one is interested in finding the impact of an additional year of schooling on the incomes of people.
- By using the LATE approach, they showed that effect on income of an additional year of education is around 9%.
- While it may not be possible to determine individuals in the group, one can estimate the size of the impact.

What is the importance of the award today?

- Earlier it was difficult to identify natural experiments and even if one identified them, it was difficult to generate data from these experiments.
- With increased digitalization and dissemination of archival records, it has not just become easier to identify natural experiments but also get data.

- Economists have been using natural experiments to help us understand the impact of past policies.
- As the 2020 pandemic struck, economists used the natural experiments approach extensively to analyse how previous pandemics impacted different regions and tried to draw policy lessons.

India context

- The methodology date back to the early and mid-90s and they have already had a tremendous influence on the research undertaken in several developing countries such as India.
- For instance, in India, too, it is commonly held that higher minimum wages will be counterproductive for workers.
- It is noteworthy that last year, in the wake of the Covid-induced lockdowns, several states, including UP, had summarily suspended several labour laws.
- This included the ones regulating minimum wages, arguing that such a move will boost employment.
- The main learning is that minimum wages can be increased in India without worrying about reducing employment.

6. Indian Space Association

The PM has launched the Indian Space Association (ISpA), an industry body consisting of various stakeholders of the Indian space domain.

Indian Space Association (ISpA)

- The ISpA is a premier industry association of space and satellite companies, which aspires to be the collective voice of the Indian space industry.
- It will be headed by retired Lieutenant General AK Bhatt, who will be its Director General.
- It will target to undertake policy advocacy and engage with all stakeholders in the Indian space domain. It will engage with the government and all its agencies.

Why is the formation of ISpA significant?

- **Million-dollar industry:** Governments across the world have poured millions of dollars to push the envelope in term of exploring the edges of the space.

- **Collaborated research:** With time, governments and government agencies collaborated to explore newer planets and galaxies in search of life forms that exist outside Earth.
- **Private players involvement:** In the recent past, private sector companies such as Elon Musk's SpaceX, Richard Branson's Virgin Galactic, and Jeff Bezos' Blue Origin have taken the lead in spaceflight.
- **Easing workload on ISRO:** Though India too has made significant strides in space exploration over time, state-run ISRO has been at the centre and front of this progress.

What does ISpA aim to achieve?

- **Supplementing space research:** One of the main goals of the organisation is to supplement the government's efforts towards making India a global leader in commercial space-based excursions.
- **Commercial space exploration:** ISpA said it would engage with stakeholders across the ecosystem for the formulation of an enabling policy framework which fulfills the government vision of leading commercial space exploration.
- **Establishing global linkages:** ISpA will also work towards building global linkages for the Indian space industry to bring in critical technology and investments into the country to create more high skill jobs.

Who are the stakeholders in this organisation? How will they contribute?

- ISpA will be represented by leading domestic and global corporations that have advanced capabilities in space and satellite technologies.
- It has taken off with several Indian and international companies betting on it as the next frontier to provide high-speed and affordable Internet connectivity to inaccessible areas as well.
- This includes SpaceX's StarLink, Sunil Bharti Mittal's OneWeb, Amazon's Project Kuiper, US satellite maker Hughes Communications, etc.
- OneWeb, for example, is building its initial constellation of 648 low-earth orbit satellites and has already put 322 satellites into orbit.

Why is satellite-based Internet important in India?

- The expansion of the Internet in India is crucial to the Modi government's dream of a digital India where a majority of government services are delivered directly to the customer.
- The government aims to connect all villages and gram panchayats with high-speed Internet over the next 1000 days through BharatNet.
- However, internet connectivity in hilly areas and far-flung places of Northeast India are still a challenge.

- To overcome this, industry experts suggest that satellite Internet will be essential for broadband inclusion in remote areas and sparsely populated locations where terrestrial networks have not reached.
- Satellite communications remain limited to use by corporates and institutions that use it for emergency use, critical trans-continental communications and for connecting to remote areas with no connectivity.

7. Dhole or Asiatic Wild Dog

A recent study has identified some priority talukas/tehsils where habitats can be consolidated to enhance population connectivity for the dhole or Asiatic Wild Dog (*Cuon alpinus*).

About Dhole

Wildlife (Protection) Act, 1972: Schedule II (Absolute protection – offences under these are prescribed the highest penalties.)

IUCN: Endangered

- The dhole is a canid native to Central, South, East Asia, and Southeast Asia.
- India perhaps supports the largest number of dholes, with key populations found in three landscapes – Western Ghats, Central India and Northeast India.
- It is a highly social animal, living in large clans without rigid dominance hierarchies and containing multiple breeding females.

Their significance

- Dholes play an important role as apex predators in forest ecosystems.
- Factors contributing to this decline include habitat loss, loss of prey, competition with other species, persecution due to livestock predation and disease transfer from domestic dogs.

8. India asked to update Climate goals

In News : UK has urged India to announce a “more ambitious” Nationally Determined Contribution (NDC) ahead of a United Nations climate change summit in the U.K. in a few weeks.

- As president of the coming climate change conference, the U.K. is asking all countries to update their NDCs to reflect climate targets for the next few decades.
- UK also noted that India already lead(s) the world in renewable technology.

What is a Nationally Determined Contribution (NDC)?

- Nationally Determined Contributions (NDC) or Intended Nationally Determined Contributions (INDC) are non-binding national plans highlighting climate actions that governments aim to implement in response to climate change and as a contribution to achieve the global targets set out in the Paris Agreement.
- 193 countries filed their first NDCs, but only 19 have so far updated them.

India's Paris Climate Goals

In 2015, ahead of the UN significant climate conference in Paris, India announced three major voluntary commitments called the Nationally Determined Contributions (NDC):

- Improving the emissions intensity of its GDP by 33–35% by 2030 over 2005 levels
- Increasing the share of non-fossil fuels-based electricity to 40% by 2030.
- Enhancing its forest cover, thereby absorbing 2.5 to 3 billion tonnes of carbon dioxide

India's promises include:

- installing 450 GW of renewable energy by 2030
- declaring firm deadlines for achieving "Net Zero" carbon emissions
- ending the use of coal for generating electricity, so as to keep global warming below 1.5 degrees Celsius.

Prelims Practice Questions

1. Consider the following statements regarding the 'Lukha river':

1. It is located in the southern part of east Jaintia Hills of Meghalaya.
2. The river receives water from the Lunar river (Wah Lunar).

Which of the statements given above is/are correct?

- A 1 only
B 2 only
C Both 1 and 2
D Neither 1 nor 2

Answer : C

Explanation

- The Lukha is located in the **southern part of east Jaintia Hills of Meghalaya** where most of Meghalaya's rat-hole coal mines are located. **Hence, statement 1 is correct.**
 - It has become a victim of the unsustainable large-scale mining of coal and limestone, allegedly responsible for the pollution that turns the river its surreal winter hue.
 - It **receives water from the Lunar river (Wah Lunar)** and small streams draining from the Narpuh Reserve Forest and the undulating hills of the area while flowing down. **Hence, statement 2 is correct.**
 - The river is mainly fed by monsoon rain and flows in the south-west direction and later takes a southern path after joining the Lunar river near the Gaddum village.
 - The river passes via the Sonapur village and then into southern Assam's Barak Valley and ends up in the floodplains of Bangladesh.

2. Arrange the following in decreasing order of their contribution to India's greenhouse gas emissions:

1. Transport
2. Agriculture
3. Electricity production
4. Waste management

Options:

- a. 2>3>1>4
- b. 1>3>2>4
- c. 3>2>1>4
- d. 2>3>4>1

Answer: c

3. With reference to the Quarterly Employment Survey (QES), consider the following statements:

- 1. It is released by the Labour Bureau, Ministry of Labour and Employment.
- 2. It covers establishments employing 10 or more workers in the organised sectors.

Which of the statements given above is/are correct?

- A 1 and 2
- B 2 only
- C 1 only
- D None

Answer : A

Explanation

- The **Labour Bureau, Ministry of Labour and Employment** released the results of the **Quarterly Employment Survey (QES)** for the **First Quarter (FQ) of 2021 (April to June)**. Hence, **statement 1 is correct**.
- The Quarterly Employment Survey (QES) is part of the **All-India Quarterly Establishment-based Employment Survey (AQEES)**.
 - It covers **establishments employing 10 or more workers in the organised segment in 9 sectors**. Hence, **statement 2 is correct**.
 - The **9 sectors** are Manufacturing, Construction, Trade, Transport, Education, Health, Accommodation and Restaurants, **IT/BPO**, Financial Service Activities.

4. With reference to Multidimensional Poverty Index, consider the following statements:

1. It uses education, health, and standard of living as its indicators.
2. A person is said to be multidimensional if she/he is deprived of one third or more of the weighted indicators.

Which of the above statements is/are correct?

- A 1 only
- B 2 only
- C 1 and 2
- D Neither 1 nor 2

Answer : C

Explanation

- The **Multidimensional Poverty Index** was launched by the **UNDP** and the **OPHI** in 2010.
- MPI is based on the idea that **poverty is not unidimensional** (not just depends on income and one **individual may lack several basic needs like education, health etc.**), rather it is multidimensional.
- The index shows the proportion of poor people and the **average number of deprivations each poor person experiences at the same time.**
- MPI uses **three dimensions** and ten indicators which are:
 - **Education:** Years of schooling and child enrollment (1/6 weightage each, total 2/6);
 - **Health:** Child mortality and nutrition (1/6 weightage each, total 2/6);
 - **Standard of living:** Electricity, flooring, drinking water, sanitation, cooking fuel and assets (1/18 weightage each, total 2/6)
 - **Hence, statement 1 is correct.**
- A person is **multidimensionally poor** if she/he is **deprived in one third or more (means 33% or more)** of the **weighted indicators** (out of the ten indicators). Those who are deprived in one half or more of the weighted indicators are considered living in **extreme multidimensional poverty.** **Hence, statement 2 is correct.**
- MPI is significant as it recognizes poverty from different dimensions compared to the conventional methodology that measures poverty only from income or monetary terms.

5. Consider the following statement with respect to “Mission Lucy”:

1. It is a joint project of NASA and the European Space Agency.

2. The mission will visit 8 asteroids covering a distance of about 6.3 million km.
3. Trojan asteroids, unlike other asteroids, do not share orbit of a planet.

Which of the statements given above is/are not correct?

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

Answer : D

Explanation

- National Aeronautics and Space Administration (NASA) is set to launch 'Lucy', its **first mission to explore the Jupiter Trojan Asteroids (Not a joint mission of NASA and ESA)**. Hence, **statement 1 is not correct**.
- The **solar-powered mission** is estimated to be **over 12 years long**, during which the spacecraft will visit **eight asteroids** covering a distance of about **6.3 billion km (not 6.3 million km)**. Hence, **statement 2 is not correct**.
- Different Asteroids can have different types of orbits. **Trojan Asteroids are those that share an orbit with a larger planet**. NASA reports the presence of Jupiter, Neptune and Mars trojans. **In 2011, they reported an Earth trojan as well**. Hence, **statement 3 is not correct**.

6. With respect to Bridgmanite, consider the following statements:

1. It is the dominant material in the lower mantle.
2. It is probably the most abundant mineral in the Earth.

Which of the statement(s) given above is/are correct?

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

Answer : c

- On May 22, 2012, a large meteor shower occurred near the town of Katol in Nagpur.
- The International team of scientists examined a section of the highly-shocked meteorite from Katol.

- The paper published this month in PNAS reports the first natural occurrence of a mineral called bridgmanite.
- The mineral was named in 2014 after Prof. Percy W. Bridgman, recipient of the 1946 Nobel Prize in Physics.
- Prior to its naming in 2014, it was referred to as perovskite because according to rules set down by the International Mineralogical Association, a mineral cannot be given a formal name until a specimen has been found that can be examined first hand.
- Various computational and experimental studies have shown that about 80% of the Earth's lower mantle is made up of bridgmanite.

Mains Practice Questions

1. "Corruption is an important manifestation of the failure of ethics." In the light of the statement discuss the various reasons for the prevalence of corruption and measures needed to eradicate it. (250 words)

Approach

- Start with briefly explaining the given statement.
- Discuss various reasons for the prevalence of corruption emphasising on the ethical reasons.
- Examine the measures needed to eradicate corruption and focus more on the ethical measures.
- Conclude suitably.

2. What do you mean by Basel accords? Discuss the major changes proposed in Basel III over earlier accords and its significance over the Indian banking sector. (250 words)

Approach

- Explain Basel accord.
- Mention major changes proposed in Basel III over earlier accords.
- Discuss the significance of these accords for Indian banking sector.
- Conclude with the likely impact on Indian banking sector.