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A. GS 1 Related

Category: GEOGRAPHY

1. When the Indian Ocean’s ancient climate patterns return

Context:

- Research studies into Indian Ocean climate patterns.

Background:

Last glacial maximum:

- About 19,000-21,000 years ago, ice-sheets covered North America and Eurasia, and sea-levels were much lower. This period, the peak of ice age conditions, is called the Last Glacial Maximum.
The research argues that there was the existence of an ‘Indian Ocean El Niño’ during the Last Glacial Maximum.

**Research methodology:**
- The research involved the study of microscopic zooplankton called foraminifera.
- Foraminifera build a calcium carbonate shell, and studying these can reveal the properties of the water. The team measured multiple individual shells of foraminifera from ocean sediment cores and reconstructed the sea surface temperature conditions of the past.

**Details:**
- Researchers analysed simulations of the past climate and have predicted that the ongoing climate change could reawaken an ancient climate pattern of the Indian Ocean.
- The researchers have pointed out that the possible climatic pattern could be similar to the El Niño phenomenon of the Pacific Ocean bringing more frequent and devastating floods and drought to several densely-populated countries around the Indian Ocean region.

**Concerns:**

**Swings in Monsoon rainfall:**
- If the hypothesised ‘Indian Ocean El Niño’ emerges in the near future, it will pose a source of uncertainty in rainfall prediction and will likely amplify swings in monsoon rainfall. It could bring more frequent droughts to East Africa and southern India and increased rainfall over Indonesia.
  - Changes in the Indian Ocean Dipole and the El Niño–Southern Oscillation strongly affect Indian Monsoon variability from year to year.

**Threat of global warming:**
- If current global warming trends continue, the predicted new Indian Ocean El Niño could emerge as early as 2050.

Also read: El Niño

**B. GS 2 Related**

**Category:** INTERNATIONAL RELATIONS

**1. Colombo plea for postponing debt repayment hangs fire**

**Context:**
- India- Sri Lanka relations

**Background:**

**Economic Crisis of Sri Lanka:**
- Sri Lanka has been witnessing an economic crisis.
• Sri Lanka’s foreign reserve which was already in peril due to economic troubles and 2019’s Easter Sunday terror attacks are being further drained after the pandemic.
• The critical aspects of the Sri Lankan economy involving exports (tea and garments), labour remittances and tourism sectors have been badly hit.
• Sri Lanka’s total foreign debt is approximately $55 billion, which accounts for nearly 80% of its GDP. Sri Lanka is scheduled to repay $2.9 billion of its total external debt in 2020. Sri Lanka has an outstanding payment of about $960 million to India.
• Per reports, Japan’s International Cooperation Agency (JICA) has put on hold funding for a proposed light rail transit system, because of concerns over Sri Lanka’s rising debt.

Debt moratorium requests:

• Sri Lanka has renewed calls for international monetary organisations to provide debt relief for developing countries and has also made an appeal to all its debt partners, including India.
• Sri Lanka has requested India for a debt moratorium and has also made two separate requests for a currency swap facility.
  o The Central Bank of Sri Lanka has also sought a $400 million currency swap with the RBI under the SAARC facility and another request was made from the visiting Sri Lankan President seeking a “special” $1.1 billion currency swap facility from India.

Details:

• Sri Lanka’s request to India for a postponement of its debt repayment has been under consideration and no decision has been taken even after more than four months have passed since the formal request was made.

Concerns:

The China factor:

• The Sri Lankan government is likely to turn to China for help with debt repayment, as it did in 2014, even as its request to India for a postponement of its debt repayment has been pending.
• China has already approved an additional $500 million loan to Sri Lanka from its development bank to help counter the impact of the pandemic.
• This could further strengthen China’s sway over Sri Lanka at the cost of India-Sri Lanka relations.

China’s debt-trap diplomacy:

• Many countries in the South Asian region are also seeking debt repayments.
  o Recently, Pakistan Prime Minister has proposed a ‘Global Initiative on Debt Relief’ to mitigate the economic impact of the pandemic.
  o The Maldives is talking to all its bilateral partners including India and international agencies for debt relief.
• China has a substantial share of the debt owed by Sri Lanka and also other countries in South Asia like the Maldives and Pakistan.
• The economic diplomacy of the Chinese has often been criticized for its “debt trap” tactics. The continued reliance of the nations on Chinese investments could further tighten Chinese sway on these nations.

2. S. China Sea rights should be rooted in UN treaty: ASEAN
Context:

- Statement issued at the end of the ASEAN leaders’ annual summit.

Details:

- Southeast Asian leaders have called for the 1982 UN oceans treaty to be the basis for determining maritime entitlements and sovereign rights in the South China Sea.
  - The United Nations Convention on the Law of the Sea (UNCLOS) is a 1982 international agreement that defines the rights of nations to the world’s oceans.
- The statement calls for adherence to the rule of law in a disputed region that has long been regarded as an Asian flashpoint.
- This marks one of the strongest remarks of the member nations, opposing China’s claim to the entire disputed South China Sea waters based on historical grounds. While it has criticised aggressive behaviour in the disputed waters, ASEAN has not named China in its post-summit communiqué.

For more related information, refer to:

CNA dated June 27, 2020

3. On the warpath against terror financing

Context:


Background:

- The Financial Action Task Force (FATF) was established in 1989 after a decision by members of the G-7 and the European Commission. It functions out of the Organisation for Economic Cooperation and Development (OECD) headquarters in Paris.
- The 9/11 terror attacks pointed out that if the world were to actually fight global terror, it would need to not only follow the money trail for terror financing but also hold countries that allowed terrorists safe haven and financial assistance to account.
- In October 2001, in the wake of the 9/11 terror attacks in the U.S., the FATF which was up till then working on money laundering and white-collar crimes, met in Washington DC to discuss a radical shift in its goals.
- The FATF plenary then adopted an eight-point amendment to its charter that added Combating the Financing of Terrorism (CFT) to its tasks on Anti-Money Laundering (AML/CFT).

Details:

Functioning of the FATF:

- FATF has 39 member-countries which regularly review the conduct of nations in stopping terror-related transactions worldwide.
- FATF is not an enforcement agency itself, but a task force composed of 39 member governments who fund the FATF and agree on its mandate. This means that FATF depends on the voluntary implementation of its reports by member countries. The FATF follows a principle of ostracism against members who don’t comply with its strictures along with collaboration with the global banking system.
Decisions are made by the grouping on a consensus basis, as they conduct reviews of countries on AML/CFT parameters (called “Mutual evaluations”), and then either clear them, or use a “colour coded” reference for them, placing countries in the “increased monitoring” category or the “grey list”, or the “high risk jurisdictions” or “call for action” category, as the “blacklist” is formally known.

- At present, only Iran and North Korea are on the blacklist, while 18 countries, including Pakistan, Syria, Yemen, Iceland, Jamaica and Mauritius, are on the grey list.
- The decisions are taken by consensus in the 39-member group, which has helped ensure that the FATF doesn’t at present suffer from the polarisation that has virtually paralysed the UNSC. The FATF runs differently from other multilateral agencies, as its primary focus is on reviewing all actions based on technical guidelines and there is very little scope for geopolitics.

India’s stakes:

- India became an observer in the grouping in 2006, and was inducted as a full member in 2010.
- India’s long and sometimes lone battle over the past few decades in holding Pakistan to account for cross-border terror activities, including in Jammu and Kashmir, the IC-814 hijacking, 2008 Mumbai attacks, the Pathankot airbase attack in 2015, Uri Army base in 2016, and many others has had limited effect.
- While Pakistan has clearly disregarded warnings from India, the U.S. and other countries to crack down on a number of cross-border terror groups that exist on its soil, it remains eager to avoid the FATF strictures.
  - Pakistan has been kept on the group’s radar since 2008 and is currently on the grey list. It has to prove that it is making progress on the FATF’s report, that gave it a gruelling 27-point action plan to fulfil, or face a blacklisting, which means severe financial restrictions, a downgrading by credit agencies, and most significantly, possible loan cuts by the World Bank and the International Monetary Fund (IMF).
  - Pakistan has taken a few measures owing to pressure by the FATF. It has changed terror laws to include all UN Security Council-designated individuals and organisations, shown progress in the prosecution of leaders of LeT and JeM including the re-arrest of the Mumbai attack's mastermind Hafiz Saeed, and has tightened all banking mechanisms to show that it has frozen funding to the terror groups.

Conclusion:

- FATF will have to respond to new-age challenges to the global counter-terror and anti-money laundering regime: including bitcoins and cyber currencies, illegal trafficking of wildlife as a source of funding, use of artificial intelligence in terror attacks and biowarfare as part of the wider challenge of the coronavirus pandemic.

C. GS 3 Related

Category: SCIENCE AND TECHNOLOGY

1. Novel coronavirus infection might trigger type-1 diabetes

Context:

- Risk of diabetes in COVID infected patients.

Details:
There seems to be a bidirectional relationship between COVID-19 and diabetes.

Diabetes is associated with an increased risk of severe COVID-19.
  - Diabetes poses one of the key risk factors for developing severe COVID-19, and chances of dying are elevated in people with diabetes.

New-onset diabetes and severe metabolic complications of pre-existing diabetes have been observed in patients with COVID-19.
  - There is growing evidence that novel coronavirus might actually be triggering diabetes in some people who have so far remained free of it. These patients typically develop type-1 diabetes.

Causative factors:

- Patients are found to develop type-1 diabetes, which is caused when the body’s immune system plays rogue and begins to attack and destroy the beta cells which produce the hormone insulin in the pancreas. With the destruction of beta cells, the amount of insulin produced is reduced, and hence, the ability of the body to control blood sugar is compromised leading to type-1 diabetes.
- The 2002 SARS coronavirus, too, caused acute-onset diabetes in patients. Like the 2002 SARS coronavirus, the SARS-CoV-2 virus, too, binds to ACE2 receptors that are found on many organs involved in controlling blood sugar, including the liver and pancreatic beta cells, and subsequently infects the cells in the organs.
  - ACE2 is expressed in human adult alpha and beta cells. While the beta cells produce insulin which reduces the sugar level in the blood, the alpha cells produce glucagon, which increases the blood sugar. A fine balance between the two helps maintain the blood sugar level.

Category: ECONOMY

1. Panel to push farm reforms in States

Context:
- Finance Commission panel on agricultural sector reforms agenda.

Background:

Interim report of the Finance Commission:

- In the framework for the Finance Commission’s interim report for 2020-21, the commission had recommended performance incentives to be given to States on the basis of three measurable indicators of agricultural reforms.
- If State Legislatures enacted the Centre’s Model Acts on agricultural marketing and contract farming, as well as the Model Agricultural Land Leasing Act, 2016, prepared by NITI Aayog, they would be eligible for financial incentives from the Commission from 2021-22.

Atmanirbhar Bharat package:

- The Central government has issued ordinances on agricultural marketing reforms and contract farming as part of the Atmanirbhar Bharat package.

For more information, refer to:
Details:

- In the light of the government efforts of reforms in the agricultural sector, the 15th Finance Commission is considering the promotion of an expanded farm reform agenda for States over the next five years.
- The Finance Commission has set up a panel to devise a mechanism for incentivization of States in areas of agricultural reforms agenda for the purpose of inclusion in the Commission’s recommendations in its final report.
- The panel will consider new agricultural reform measures to promote among States, possibly including the Model Land Leasing Act.

Category: INTERNAL SECURITY

1. 26.9 crore people used drugs in 2018: UN report

Context:


Details:

Increased usage:

- The report notes that about 26.9 crore people used drugs in 2018, which is 30% more than the 2009 figure, with adolescents and young adults accounting for the largest share of users.
- Compared with earlier estimates from a survey done in 2004, overall opioid use in India is estimated to have increased fivefold.
- The stimulant scene is dominated by cocaine and methamphetamine, and the use of both substances is rising in their main markets. Production of heroin and cocaine remains among the highest levels recorded in modern times.

Expanding markets:

- Rapid market changes are being noticed, with synthetics replacing opiates in Central Asia and the Russian Federation.
  - Crystalline meth market has also grown in opiate dominated areas like Afghanistan and Iraq.
- A number of indicators suggest that the global market of amphetamines, particularly methamphetamine, is expanding. Traffickers and manufacturers have been using “designer chemicals” as an alternative to synthesise amphetamine, meth and ecstasy.

Lack of control:

- The report expressed concern about fewer countries taking part in joint drug operations, apparently due to budgetary problems.

For more related information, refer to:

CNA dated June 27, 2020
E. Editorials

Category: INTERNATIONAL RELATIONS

1. How will the U.S. visa ban impact India?

Context:

- U.S. visa ban.

Background:

- The U.S. administration has halted the processing and issuance of non-immigrant work visas of the following types:
  - H-1B visa for skilled workers, dependents of the H-1B who are seeking the H4 visa, the H-2B visa issued to seasonal workers in the landscaping and hospitality industries, the L-1 visa for intra-company transfers and their dependents on the L-2 visa, and the J-1 visa for students on work-study summer programmes and related occupations.
- The stated aim of this policy is to stop foreign workers from taking up American jobs, especially at a time of deep economic distress brought on by the COVID-19 pandemic. Unemployment claims filed since the novel coronavirus pandemic hit the U.S. economy in March 2020 have crossed 40 million.

For more information on this issue, refer to:

CNA dated June 24, 2020

Details:

- The article analyzes the likely impact of the policy measure both on American and Indian economies and the bilateral relationship between the two countries.

Impact on America:

- The U.S. firms or others with U.S. operations who rely on skilled foreign nationals working in the U.S. will be unable to make new hires as long as the ban stands.
- Corporate America, already hit by the economic downturn since the pandemic struck, can hardly afford to accept even more losses as the recent order undermines the base of their workforce. Alternative workers are either not available domestically or would cost the company higher.
- Immigration has contributed immensely to America’s economic success, making it a global leader in technology.

Effect on Indian corporations:

- The prospect of Indian IT majors building up their order books as they limp back through an economic recovery in India is likely to be seriously undermined by this move.
The move is bound to adversely impact Indian IT services exported to the U.S.

U.S. imports of services from India were an estimated $29.6 billion in 2018, 4.9% more than in 2017, and 134% greater than 2008 levels, according to the U.S. Trade Representative.
   - The major services exports from India to the U.S. are in the telecommunications, computer and information services, research and development, and travel sectors.

Bilateral relation:

- Given the fact that a large proportion of the H-1B visas goes to Indian nationals, there have been doubts cast on the effect that this policy shift on immigration might have on the U.S.-India relationship.
- India’s IT services exports to the U.S., which depend significantly on the H-1B visa, have been an important constituent element of bilateral economic trade.
   - Until now, the U.S. issued 85,000 H-1B visas annually, of which 20,000 went to graduate students and 65,000 to private sector applicants, and Indian nationals would garner approximately 70% of these.
- The Indian government response has been muted, limited to highlighting the importance of highly-skilled Indian professionals to imparting a competitive edge to the U.S. economy.

Category: HISTORY

1. 1921 and the Malabar Rebellion

Context:

- The recent controversy in Kerala over the making of a film on Variyamkunnath Kunhamed Haji.

Details:

- The Malabar Rebellion (also called the Mappila or Moplah Rebellion by the British) broke out in the southern taluks of Malabar in August 1921. It largely took the shape of guerrilla-type attacks on janmis (feudal landlords, who were mostly upper-caste Hindus) and the police and troops.
- Mappilas had been among the victims of oppressive agrarian relations protected by the British. The political mobilisation of Muslims in the region in the aftermath of the launch of the Khilafat agitation served as an opportunity for an extremist section to invoke a religious idiom to express their suffering, while working for a change in the system of administration.
- The leaders of the movement sought to link their sense of local injustice with the pan-Islamic sentiments created in the aftermath of the collapse of the Ottoman Empire.
- Variyamkunnath Kunhamed Haji was the main protagonist of the Malabar Rebellion of 1921 who was executed by the British.

Negative impact of the protests:

- The rebellion of Mappilas inspired by religious ideology and a conception of an alternative system of administration — a Khilafat government — dealt a blow to the nationalist movement in Malabar. The fanaticism of rebels fostered communal rift and enmity towards the Congress.
- The exaggerated accounts of the rebellion engendered a counter-campaign in other parts of the country against the ‘fanaticism’ of Muslims.

Also read: Moplah Rebellion of 1921.
F. Prelims Facts

1. Black hole merges with unusual compact object

- Since the first detection of gravitational wave signals emerging from the coalescing of binary black holes in 2015, the LIGO and VIRGO detectors have detected mergers of pairs of black holes, pairs of neutron stars and black hole-neutron star duo.
- Recently, the LIGO Scientific and VIRGO Collaborations (LSC) have detected an unusual compact object whose mass falls in between that of a typical black hole and a neutron star.
- Looking at the signal waveform, the object is too light to be a black hole and too heavy to be a neutron star.

G. Tidbits

1. Devise plan to curb harmful effect of pesticides: NGT

- The National Green Tribunal (NGT) has directed the Central Pollution Control Board (CPCB) to devise an action plan to curb the harmful effects of pesticides on human health and soil. The NGT bench has directed the CPCB to evolve an appropriate protocol.
- The directions came after the Ministry of Agriculture informed the NGT that non-judicious and indiscriminate use of pesticides may adversely affect human health and the environment.

2. Why is there a stress on randomised controlled trials?

- As per definition, a randomised controlled trial, or RCT, is a study in which people are allocated at random, entirely by chance, to receive one of several clinical interventions. One of these interventions is the standard of comparison or control. The control may be standard practice/treatment options, a placebo (a drug without an active substance, or a ‘sugar pill’), or no intervention at all.
- The idea is to measure and compare the outcomes against the control after the participants receive the treatment.
- RCT approach removes the impact of chance in cause and effect relationships and helps ensure the development of safe, efficacious drugs that can be used in the real-world setting.
- The Solidarity and RECOVERY (or Randomised Evaluation of COVid-19 thERapY) trials are examples of large-scale RCTs done with multiple partners at many locations.

H. UPSC Prelims Practice Questions

Q1. Which of the following statements are correct with respect to the United Nations Convention on the Law of the Sea (UNCLOS)?

1. Exclusive economic zone (EEZ) extends to 100 nautical miles from the baseline set as per the UNCLOS.
2. It establishes general obligations for protecting freedom of scientific research on the high seas.
3. It has established a legal regime for controlling mineral resource exploitation in deep seabed areas beyond national jurisdiction.
Options:

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

Answer:

Option b

Explanation:

Exclusive economic zones (EEZs):

- These extend to 200 nautical miles from the baseline. Within this area, the coastal nation has sole exploitation rights over all natural resources. In casual use, the term may include the territorial sea and even the continental shelf.
- Foreign nations have the freedom of navigation and overflight, subject to the regulation of the coastal states. Foreign states may also lay submarine pipes and cables.

Read more on Exclusive Economic Zones (EEZs).

- Aside from its provisions defining ocean boundaries, the UNCLOS establishes general obligations for safeguarding the marine environment and protecting freedom of scientific research on the high seas, and also creates an innovative legal regime for controlling mineral resource exploitation in deep seabed areas beyond national jurisdiction, through an International Seabed Authority and the common heritage of mankind principle.
- Landlocked states are given a right of access to and from the sea, without taxation of traffic through transit states.

Q2. Which of the following statements are correct with respect to Financial Action Task Force (FATF)?

1. FATF was established in 1989.
2. India is a founding member of the FATF.
3. The FATF focuses on Combating the Financing of Terrorism (CFT) and Anti-Money Laundering.

Options:

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

Answer:

Option c

Explanation:
The Financial Action Task Force (FATF) was established in 1989 after a decision by members of the G-7 and the European Commission. It functions out of the Organisation for Economic Cooperation and Development headquarters in Paris.

In October 2001, in the wake of the 9/11 terror attacks in the U.S., the FATF adopted an eight-point amendment to its charter that added Combating the Financing of Terrorism (CFT) to its tasks on Anti-Money Laundering (AML/CFT).

India became an observer in the grouping in 2006, and was inducted as a full member in 2010.

Q3. Which of the following statement/s is/are correct?

1. Indian Ocean Dipole (IOD) indicates the irregular oscillation of sea surface temperatures between the western Indian Ocean and the eastern Indian Ocean.
2. A positive Indian Ocean Dipole (IOD) indicates the western Indian Ocean becoming warmer than the eastern Indian Ocean.
3. A positive Indian Ocean Dipole (IOD) is associated with higher monsoon rainfall in India.

Options:

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

Answer: Option d

Explanation:

- The Indian Ocean Dipole (IOD), also known as the Indian Niño, is an irregular oscillation of sea surface temperatures in which the western Indian Ocean becomes alternately warmer (positive phase) and then colder (negative phase) than the eastern part of the ocean.
- A positive IOD is found to be beneficial for the Indian monsoon.

Q4. Which of the following pairs is/are correctly matched?

1. Human beta cells: Insulin
2. Human alpha cells: Glucagon

Options:

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

Answer: Option c

Explanation:
• Islets of Langerhans are micro-organs located in the pancreas and composed of at least four types of endocrine cells. The α- and β-cells are the most abundant and also the most important in that they secrete hormones (glucagon and insulin, respectively) crucial for glucose homeostasis.
• Human beta cells produce insulin which reduces the sugar level in the blood and the alpha cells produce glucagon, which increases the blood sugar. A fine balance between the two helps maintain the blood sugar level in humans.

I. UPSC Mains Practice Questions

1. The U.S. administration’s recent move to halt the processing and issuance of non-immigrant work visas would have an adverse impact on both the American and Indian companies and the bilateral relation between the two countries. Comment. (10 marks, 150 words)
2. Discuss the major factors which contributed to the outbreak of the Moplah Rebellion in 1921 and analyze the consequences of the rebellion. (10 marks, 150 words)