

INTERNATIONAL RELATION**RATS-SCO**

Recently, India assumed the Chairmanship of Council of Regional Anti-Terrorist Structure of Shanghai Cooperation Organization (RATS-SCO) in 2021 for a period of one year. In pursuance of this, the National Security Council Secretariat (NSCS) in association with Data Security Council of India (DSCI), organized a Seminar on Securing Cyberspace in the Contemporary Threat Environment.

Key Points**About RATS-SCO:**

- SCO-RATS is a permanent body of the SCO and is intended to facilitate coordination and interaction between the SCO member states in the fight against terrorism, extremism and separatism.
- The main functions of SCO-RATS are coordination and information sharing.
- As a member, India has actively participated in the activities of SCO-RATS.
- India's permanent membership would enable it to generate greater understanding among members for its perspective.

About Shanghai Cooperation Organization(SCO):

- The Shanghai Cooperation Organization (SCO) was established as a multilateral association to ensure security and maintain stability across the vast Eurasian region.
- It envisages joining forces to counteract emerging challenges and threats, and enhance trade, as well as cultural and humanitarian cooperation. It was created in 2001.
- Prior to the creation of SCO in 2001, Kazakhstan, China, Kyrgyzstan, Russia and Tajikistan were members of the Shanghai Five. Shanghai Five (1996) emerged from a series of border demarcation and demilitarization talks which the four former Soviet republics held with China to ensure stability along the borders.
- Following the accession of Uzbekistan to the organisation in 2001, the Shanghai Five was renamed the SCO.
- The SCO Charter was signed in 2002, and entered into force in 2003. The SCO's official languages are Russian and Chinese.
- SCO has two Permanent Bodies:
 1. SCO Secretariat in Beijing,
 2. Executive Committee of the Regional Anti-Terrorist Structure (RATS) in Tashkent.
- The Chairmanship of SCO is by rotation for a year by Member States.
- India and Pakistan became members in 2017.
- Member countries: Kazakhstan, China, Kyrgyzstan, Russia, Tajikistan, Uzbekistan, India, Pakistan, Iran.

India & SCO**Advantages for India:**

- **Regional Security:** SCO will enable India, as an integral part of the Eurasian security grouping, to neutralise centrifugal forces arising from religious extremism and terrorism in the region.
- **Embracing Regionalism:** The SCO is one of the few regional structures India is a part of now, given a decline in its engagement with SAARC, Bangladesh, Bhutan, India, Nepal (BBIN) Initiative. More importantly, cooperation in three critical areas— energy, building trade and transportation links, and dealing with traditional and non-traditional security threats.
- **Connect With Central Asia:** The SCO provides India with a convenient channel for its outreach — trade and strategic ties — to Central Asian countries. SCO is also a potential platform to advance India's Connect Central Asia policy. The foundation of India's economic outreach to Central Asia is based on its 2012 Connect Central Asia Policy with its focus on the 4 C's - Commerce, Connectivity, Consular and Community.
- **Foundational Dimensions of SECURE:** Acknowledging the strategic importance emanating from the region and SCO, the Indian Prime Minister had articulated the foundational dimension of Eurasia being 'SECURE'. The letters in the word SECURE are:
 1. **S** for Security of our citizens,
 2. **E** for Economic development for all,
 3. **C** for Connecting the region,
 4. **U** for Unite our people,
 5. **R** for Respect for Sovereignty and Integrity, and
 6. **E** for Environment protection.
- **Dealing With Pakistan & China:** SCO provides India with a forum where it can constructively engage both China and Pakistan in a regional context and project India's security interests.

Challenges That India Needs to Navigate:

- **Absence of Direct Land Connectivity:** A major impediment in India's expanded engagement with Eurasia remains the strategic denial of direct land connectivity between India and Afghanistan and beyond by Pakistan. The lack of connectivity has also hampered the development of energy ties between the hydrocarbon-rich region and India
- **Growing Russia-China Convergence:** One of the major factors for Russia pushing India's inclusion into the SCO was to balance China's power.
- **Difference Over BRI:** While India has made its opposition to Belt and Road Initiative (BRI) clear, all other SCO members have embraced the Chinese project.
- **India-Pakistan Rivalry:** SCO members have, in the past, expressed fears of the organisation being held hostage to India's and Pakistan's adversarial relationship, and their fears would likely have worsened in recent times.

Way Forward

- **Improving Connectivity With Central Asia:** The opening of Chabahar port and India's entry into the Ashgabat agreement should be utilized for a stronger presence in Eurasia. Besides this, a clear focus on operationalising International North-South Transport Corridor (INSTC).
- **Improving Relations With China:** It is imperative that India and China set up a modus vivendi (agreement allowing conflicting parties to coexist peacefully) for the 21st century to be viewed through the lens of an Asia century.
- **Strengthening Military Corporation:** In the context of increasing terrorism in the region, it is imperative for SCO countries to develop a 'cooperative and sustainable security' framework and make the Regional Anti-Terrorist Structure more effective.

2. Protests in Balochistan

Over the last few weeks, there have been continuous protests in Gwadar, Balochistan against mega development plans of the port city as part of the China-Pakistan Economic Corridor. The protesters have sought to draw attention to marginalisation of the local people in the development of the port.

Pakistan claims that India has been supporting these protests.

Key Points**About Balochistan:**

- Balochistan is one of the four provinces of Pakistan.
- It is least populated even though it is the largest province in terms of land size.
- It is populated in ethnic Baloch people which can be found in modern day Iran and Afghanistan though the majority of Baloch can be found in Balochistan.
- Balochistan is rich in natural gas and oil and is one of the most important regions of Pakistan.

Uprising in Balochistan:

- During the withdrawal of the British from the Indian subcontinent, the Kingdom of Balochistan was offered the same offer, either to join India, join Pakistan or remain independent.
- The king of Balochistan chose to remain independent and it did remain independent for nearly a year.
- In the year 1948, the Pakistan government, with a combination of military and diplomacy, took control of the region and made it into a part of Pakistan.
- Due to lack of development and human rights violations in the region done by the Pakistan military and terror groups, the insurgency in Balochistan has been active since 1948.
- Pakistan claims that India has been supporting these rebel fighters with arms and intelligence.

India's Stand on Balochistan:

- India has long maintained a political stance of not interfering in the internal matters of Pakistan or any other country.
- Despite Pakistan repeatedly bringing up the Kashmir issue over the years, India had maintained silence on Balochistan.
- However, in 2016, remarks on Balochistan came in the immediate aftermath of the Independence Day celebration in Pakistan that was dedicated to the independence of Kashmir.
- India's response was quick with India's Prime Minister referring to atrocities of Baloch people in his Independence speech in 2016.

CPEC & India's Concerns

- **About CPEC:**
 1. The CPEC is a bilateral project between Pakistan and China.
 2. It aims to link the Western part of China (Xinjiang province) to the Gwadar Port in Balochistan, Pakistan via Khunjerab Pass in the Northern Parts of Pakistan.

3. It is intended to promote connectivity across Pakistan with a network of highways, railways, and pipelines accompanied by energy, industrial, and other infrastructure development projects.
 4. It will pave the way for China to access the Middle East and Africa from Gwadar Port, enabling China to access the Indian Ocean.
 5. CPEC is a part of the Belt and Road Initiative. The BRI, launched in 2013, aims to link Southeast Asia, Central Asia, the Gulf region, Africa and Europe with a network of land and sea routes.
- **India's Concerns:**
 1. **Sovereignty Issue:** Some of the proposed infrastructure that the Chinese have been developing for Pakistan are passing through the disputed region of Pakistan Occupied Kashmir (POK). India considers it to be a part of its own territory.
 2. **Dual Purpose of Gwadar Port:** India has been concerned about Gwadar, which gives China strategic access to the Arabian Sea and the Indian Ocean.
 - It is not just being developed as a trade entrepot but as a dual purpose port for use by the Chinese Navy.
 - It is part of String of pearls theory, under which China is building state of the art gigantic modern ports all along the Indian Ocean and to the south of it, in Gwadar (Pakistan), Chittagong (Bangladesh), Kyauk Phru (Myanmar) and Hambantota (Sri Lanka). The string of pearls is a strategic threat to India, as it aims to encircle India to establish Chinese dominance in the Indian Ocean.

SCIENCE & TECHNOLOGY

James Webb Space Telescope

Recently, the Union Minister of Atomic Energy and Space informed that the crewed Gaganyaan mission will finally be launched in 2023. The country's first space station is likely to come up by 2030.

Key Points

About:

- Gaganyaan is a mission by the Indian Space Research Organisation (ISRO).
- Under the Gaganyaan schedule:
 1. Three flights will be sent into orbit.
 2. There will be two unmanned flights and one human spaceflight.
- The Gaganyaan system module, called the Orbital Module will have three Indian astronauts, including a woman.
- It will circle Earth at a low-earth-orbit at an altitude of 300-400 km from earth for 5-7 days.
- With that launch, India will be in the elite club of nations (America, China and Russia).

Payloads:

- **The payload will consist of:**
 1. Crew module - spacecraft carrying human beings.
 2. Service module - powered by two liquid propellant engines.
- It will be equipped with emergency escape and emergency mission abort.

Launch:

- GSLV Mk III, also called the LVM-3 (Launch Vehicle Mark-3,) the three-stage heavy lift launch vehicle, will be used to launch Gaganyaan as it has the necessary payload capability.
 1. Gaganyaan's major missions like the test vehicle flight for the validation of crew escape system performance and first uncrewed mission of Gaganyaan (G1) are scheduled during the beginning of the second half of next year (2022).
 2. This will be followed by the second uncrewed mission at the end of 2022 carrying 'Vyommitra', a spacefaring human robot developed by Isro, and finally the first crewed Gaganyaan mission in 2023.

Significance:

- It will help in enhancement of science and technology levels in the country and help inspire youth. Gaganyaan will involve numerous agencies, laboratories, disciplines, industries and departments.
- It will help in the improvement of industrial growth. A new organisation, IN-SPACE, part of reforms to increase private participation in the space sector was announced last year (2021).
- It will help in the development of technology for social benefits.
- It will help in improving international collaboration. One International Space Station (ISS) put up by multiple countries may not be enough. Regional ecosystems will be needed and Gaganyaan will focus on regional needs: food, water and energy security.

Other Upcoming Mission:

- **Shukrayaan Venus Mission (For 2023):** The Shukrayaan orbiter will be the first mission to Venus by the ISRO and will study the planet for four years

- **L-1 Aditya Solar (For 2022-23):** It is India's first scientific expedition to study the Sun. It will be ISRO's second space-based astronomy mission after AstroSat, which was launched in 2015.
- **Chandrayaan-3 Missions (For 2022-23):** The Chandrayaan-3, a follow-up of the Chandrayaan-2 mission, involves "various processes, including finalisation of configuration, subsystems realisation, integration, spacecraft level detailed testing and a number of special tests to evaluate the system performance on earth."

PRELIMS FACT

Ramanujan Prize

The Ramanujan Prize for Young Mathematicians from developing countries has been given to Professor Neena Gupta. She is a mathematician at the Indian Statistical Institute in Kolkata and has been awarded for her outstanding work in affine algebraic geometry and commutative algebra.

- She is the third woman to receive the Ramanujan Prize. Her solution for solving the Zariski cancellation problem, a fundamental problem in Algebraic Geometry, earned her the 2014 Young Scientists Award of the Indian National Science Academy.

Key Points

About:

- The Ramanujan Prize for Young Mathematicians from developing countries has been awarded annually since 2005.
- It is administered by the Abdus Salam International Centre for Theoretical Physics (ICTP) jointly with the Department of Science and Technology (DST) Government of India and the International Mathematical Union (IMU).
 1. **ICTP:** Founded in 1964 by the late Nobel Laureate Abdus Salam, it seeks to accomplish its mandate by providing scientists from developing countries with the continuing education and skills that they need to enjoy long and productive careers.
 2. **IMU:** It is an international non-governmental and non-profit scientific organization, with the purpose of promoting international cooperation in mathematics. It is a member of the International Science Council (ISC).
 3. **DST:** The DST has agreed to fund the Prize, starting with the 2014 Prize. It has been supported by DST in the memory of Srinivasa Ramanujan, a genius in pure mathematics who was essentially self-taught and made spectacular contributions to elliptic functions, continued fractions, infinite series, and analytical theory of numbers.

Eligibility & Prize:

- It is awarded to a researcher from a developing country who is less than 45 years of age on 31st December of the year of the award, and who has conducted outstanding research in a developing country.
- Researchers working in any branch of the mathematical sciences are eligible.
- The Prize carries a USD 15,000 cash award.

2. SAMPANN Project

Over one lakh people have received pensions directly in their bank accounts through the SAMPANN (System for Accounting and Management of Pension) project.

Key Points

About:

- It was launched in 2018. It is a seamless online pension processing and payment system for Department of Telecommunications pensioners.
- It provides direct credit of pension into the bank accounts of pensioners.
- It is an ambitious project being implemented by the Ministry of Communications.
- It has helped the Department in faster settlement of pension cases, improved reconciliation/auditing and ease of accounting.
- It has also been instrumental in settling close to 76000 BSNL Voluntary Retirement Scheme 2019 cases in a short span of 6 months.
- It is a system with a flexible design which enables it to accommodate ever expanding requirements.

Benefits:

- It provides e-Pension payment orders which make the payment process easier and hassle-free.
- Timely settlement of pension cases.
- Every pensioner gets access to key information like payment history along with a login option.
- Login for each pensioner enables access to key information like payment history.
- Online submission of grievances and timely SMS alerts.

DAILY ANSWER WRITING PRACTICE

Qns. Mangrove swamps protect coastal areas from erosion, storm surge, and tsunamis. Mangroves in India are getting ecologically fragile and climatically vulnerable. Comment. (250 words)

Ans:

Introduction

Mangroves are the characteristic littoral plant formation of tropical and subtropical sheltered coastlines. They exhibit remarkable capacity for salt water tolerance, strong wind velocity, varying tides and high temperature (FAO-1952). E.g.: Rhizophora, Avicenia, Bruguiera etc. Total cover of Mangroves in India is about 4,975 sq km as per latest State of Forest Report 2019.

Body**Ecological Services by Mangroves:**

- Mangrove plants have (additional) special roots such as prop roots, pneumatophores which help to impede water flow and thereby enhance the deposition of sediment in areas (where it is already occurring), stabilize the coastal shores, provide breeding ground for fishes.
- Mangroves moderate monsoonal tidal floods and reduce inundation of coastal lowlands.
- They prevent coastal soil erosion.
- They protect coastal lands from tsunami, hurricanes and floods.
- Mangroves enhance natural recycling of nutrients.
- Mangrove supports numerous flora, avifauna and wild life.
- Provide a safe and favourable environment for breeding, spawning, rearing of several fishes.
- They supply woods, fire wood, medicinal plants and edible plants to local people.
- They provide numerous employment opportunities to local communities and augments their livelihood.

Threats to Mangroves:

- A scientific study reported that 100 per cent of mangrove species, 92 per cent of mangrove associates, 60.8 per cent of algae, 23.8 per cent of invertebrates and 21.1 per cent of fish are under threat.
- **Natural forces due to climate change:**
 1. Sea-level rise: Mangrove systems do not keep pace with changing sea-level and fall
 2. Extreme high-water events: affect the position and health including through altered sediment elevation and sulphide soil toxicity
 3. Storms: increase damage to mangroves through defoliation and tree mortality and they collapse
 4. Precipitation: decreased rainfall and increased evaporation will increase salinity, decreasing net primary productivity, growth
 5. Temperature: Changing species composition, Changing phenological patterns (e.g., timing of flowering and fruiting)
 6. Ocean circulation patterns: affect mangrove propagule dispersal and the genetic structure of mangrove populations, with concomitant effects on mangrove community structure.

- **Anthropogenic activities:**

1. Mangroves are being destroyed and facing severe threats due to urbanization, industrialization, and discharge of domestic sewage, industrial effluents and pesticides.
2. Saltpans and aquaculture also pose major threat to the mangroves.
3. 40 per cent of mangrove forests in West Coast of India have been converted into farmlands and housing colonies over the last three decades.
4. Some of the mangrove species like Bruguiera cylindrica and Sonneratia acida are at the verge of extinction.
5. Due to shrimp farming, about 35,000 ha of mangroves have been lost in India.

Scientific Management of Mangroves

- Nationwide mapping of the mangrove areas, by remote sensing techniques coupled with land surveys, and time series to assess the rate of degradation of the ecosystems.
- Quantitative surveys of area, climatic regime, rate of growth of forest trees and seasonal variations of environmental parameters.
- Inclusion of mangrove species under threat in the IUCN (International Union for Conservation of Nature) Red list. g. Sonneratia griffithii in India
- Assessment of suitable sites for reserve forests. g.: Artificial regeneration through mangrove nurseries or aerial seeding.
- Joint management of mangroves with local community participation.
- Disease and pest control. g.: Crab cuts are prevented by painting hypocotyls in yellow or Placing seedlings inside bamboo containers.
- Afforestation of degraded mangrove areas;

- Study of management methods, the ecology of mangroves, their flora and fauna, their microbiology and the biochemistry of organic matter and sediments.
- Mangroves for Future is a unique partner-led initiative for coastal ecosystem conservation. This project is being coordinated by the International Union for Conservation of Nature (IUCN) covering, initially, eight countries (including India) in South Asia, South East Asia and Western Indian Ocean, for the protection of the mangroves.
- The mangroves have been afforded protection under Category I (ecologically sensitive) of the CRZ.

Conclusion:

An increase of 54 sq. km in mangrove cover has been observed as notes in SFR 2019. There is a need to build on this progress for stabilization of low-lying coastal lands. Mangroves being natural filters of pollutants from water, it becomes even more necessary to conserve them.

DAILY QUIZ

Q1 Consider the following statements with reference to OneWeb's LEO internet programme:

1. OneWeb is a Low Earth Orbit (LEO) satellite communications operator.
2. It is a venture led by Elon Musk's SpaceX.
3. It calls this programme the 'Five to 50' service of offering internet connectivity to all regions north of 50 degrees latitude.

Which of the statements given above is/are correct?

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

Q2. World Drug Report 2021 is released by which of the following?

- a. World Health Organization
- b. The International Criminal Police Organization
- c. United States Drug Enforcement Administration
- d. **United Nations Office on Drugs and Crime**

Q3. Hazara is an ethnic group from

- a. Pakistan
- b. Bangladesh
- c. Sri Lanka
- d. **Afghanistan**

Q4. In which state of India is Wanchuwa festival celebrated?

- a. Himachal Pradesh
- b. Jharkhand
- c. **Assam**
- d. Odisha

Q5. Consider the following statements about Fly Ash.

1. Fly ash is the end product of combustion during the process of power generation in the coal based thermal power plants.
2. Fly ash can be used in combination with other alkaline materials to transform sewage sludge into organic fertilizer or biofuel.

Which of the above statements is/are incorrect?

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