

GOVERNANCE

Smart Classes for Rural Schools

The Ministry of Ports, Shipping and Waterways is starting the ambitious Project of Sagarmala Seaplane Services (SSPS) with potential airline operators.

A seaplane is a fixed-wing aeroplane designed for taking off and landing on water.

Key Points

Mechanism:

- The project is being initiated under a Special Purpose Vehicle (SPV) framework through prospective airline operators.
- SPV is a legal object formed for a specifically-defined singular purpose.

Project Implementation:

- The project execution and implementation would be through Sagarmala Development Company Ltd (SDCL), which is under the administrative control of the Ministry of Ports, Shipping and Waterways.
- Airline operators will be invited to form a SPV with SDCL.
- The routes may be operated under the government’s subsidised ude desh ka aam nagrik (UDAN) scheme.

Location: Several destinations are envisaged for seaplane operations:



Benefits and Significance:

- The seaplanes services will be a game-changer providing a supplementary means of faster and comfortable transportation across the nation.
- Apart from providing air connectivity to various remote religious/tourist places, it will boost tourism for domestic and international holiday makers.
- It will save travel time and stimulate localized short distance travelling especially in the hilly regions or across the rivers/lakes etc.
- It will provide infrastructure enhancements at the places of operations.
- It will generate employment opportunities.

Previous Project:

- One such Seaplane Service is already in operation between Kevadia and Sabarmati Riverfront in Ahmedabad which was inaugurated in October 2020.

Sagarmala Programme

- The Sagarmala Programme was approved by the Union Cabinet in 2015 which aims at holistic port infrastructure development along the 7,516-km long coastline through modernisation, mechanisation and computerisation.

- Under this port-led development framework, the government hopes to increase its cargo traffic three-fold.
- It also includes the establishment of rail/road linkages with the port terminals, thus providing last-mile connectivity to ports; development of linkages with new regions, enhanced multi-modal connectivity including rail, inland water, coastal and road services.

INTERNATIONAL RELATIONS

Iran Steps Up Uranium Enrichment

Recently, Iran has resumed enriching uranium up to 20% in violation of the 2015 nuclear deal and also seized a South Korean-flagged tanker near the crucial Strait of Hormuz.

Meanwhile, the USA has decided to keep nuclear powered aircraft carrier Nimitz in the Gulf region in the wake of threats from Iran.

Key Points

Uranium Enrichment:

- Natural uranium consists of two different isotopes - nearly 99% U-238 and only around 0.7% of U-235.
- U-235 is a fissile material that can sustain a chain reaction in a nuclear reactor.
- Enrichment process increases the proportion of U-235 through the process of isotope separation (U-238 is separated from U-235).
- For nuclear weapons, enrichment is required upto 90% or more which is known as Highly Enriched Uranium/weapons-grade uranium.
- For nuclear reactors, enrichment is required upto 3-4% which is known as Low Enriched Uranium/reactor-grade uranium.

2015 Nuclear Deal:

- In 2015, Iran with the P5+1 group of world powers - the USA, UK, France, China, Russia, and Germany agreed on a long-term deal on its nuclear programme.
- The deal was named as Joint Comprehensive Plan of Action (JCPOA) and in common parlance as Iran-Nuclear Deal.
- Under the deal, Iran agreed to curb its nuclear activity in return for the lifting of sanctions and access to global trade.
- The agreement allowed Iran to accumulate small amounts of uranium for research but it banned the enrichment of uranium, which is used to make reactor fuel and nuclear weapons.
- Iran was also required to redesign a heavy-water reactor being built, whose spent fuel would contain plutonium suitable for a bomb and to allow international inspections.
- In May 2018, the USA abandoned the deal criticising it as flawed and reinstated and tightened its sanctions.
- Since sanctions were tightened, Iran has been steadily breaking some of its commitments to pressure the remaining signatories to find a way to provide sanctions relief.

Issues Involved:

- The dual incidents come amid heightened tensions between Iran and the USA.
- Enrichment could shorten Iran's time it would take to develop a nuclear bomb.
- Israel criticised Iran's enrichment decision.
- Iran's decision to begin enriching to 20% purity a decade ago nearly triggered an Israeli strike targeting its nuclear facilities, tensions that only abated with the 2015 nuclear deal.
- A resumption of 20% enrichment (at Fordow facility) could see that brinkmanship return as that level of purity is only a technical step away from weapons grade levels of 90%.
- Brinkmanship is the art or practice of pursuing a dangerous policy to the limits of safety before stopping, especially in politics.
- Previously the International Atomic Energy Agency (IAEA) expressed serious concerns over Iran's blocking of inspections of two suspect locations of Uranium enrichment for more than four months.
- Strait of Hormuz



Geographic Location:

- It is the waterway separating Iran and Oman, linking the Persian Gulf to the Gulf of Oman and the Arabian Sea.
- On the north coast lies Iran, and on the south are the UAE and Musandam, an enclave of Oman.
- The Strait is 21 miles wide at its narrowest point, but the shipping lane is just two miles wide in either direction.

Importance:

- The Strait of Hormuz is one of the world’s most strategically important choke points.
- Two-thirds of the oil and half the Liquefied Natural Gas (LNG) Indian imports come through the strait between Iran and Oman.
- As much as 18 million barrels of oil pass through the Strait of Hormuz every day, accounting for one-third of the global oil trade.
- A third of the world’s LNG trade also passes through the strait.

Issues in the Strait:

- The strait of Hormuz plays a vital geopolitical role to the point where the US Fifth Fleet guards this strait.
- During the recent years, Iran has threatened the safe passage of oil tankers in this strait.

Way Forward

All countries part of the 2015 deal should engage constructively and resolve all issues peacefully and through dialogue.

Both the USA and Iran must act with strategic restraint as any crisis in West Asia will not only affect the region as a whole but will have a detrimental impact on global affairs as well.

SCIENCE & TECHNOLOGY

COVISHIELD and COVAXIN Approved for Restricted Use

Recently, the Drugs Controller General of India’s (DCGI) approved COVISHIELD and COVAXIN vaccines for restricted use against Covid-19 in the country.

COVISHIELD, COVAXIN and BNT162b2 applied to the Central Drug Standard Control Organisation (CDSCO), seeking emergency use approval.

Key Points

Type of Approval:

- Both vaccines have received a restricted use approval in an emergency situation.
- This means the vaccines have been approved for use despite the companies not having completed clinical trials.
- This approval is, however, subject to regular submission of safety, efficacy and immunogenicity data from their ongoing trials.
- The immunogenicity of a vaccine is its ability to prompt an immune response.
- The efficacy, in this case, is a measure of its ability to bring down the number of symptomatic Covid-19 cases.

Reason for the Emergency Approval:

- Given the pandemic, the government wanted a vaccine ready to use at the earliest.
- Another growing concern is the mutation of the SARS-CoV-2 virus in countries like the UK which are now starting to spread to other parts of the world, including India.
- COVISHIELD: It is the name given to an Oxford-AstraZeneca Covid-19 vaccine candidate which is technically referred to as AZD1222 or ChAdOx 1 nCoV19.

Produced By:

- It is a version of the vaccine developed by the University of Oxford in collaboration with Swedish-British drugmaker AstraZeneca.
- Serum Institute of India (SII) is the manufacturing partner in India.

Constituents and Action:

- It is based on a weakened version of a common cold virus or the adenovirus that is found in chimpanzees.
- This viral vector contains the genetic material of the SARS-CoV-2 spike protein (protrusions) present on the outer surface of the virus that help it bind with the human cell.
- The body's immune system is supposed to recognise this protein as a threat, and work on building antibodies against it.

Significance:

- It had triggered an immune response in humans against the novel coronavirus in early trials and is considered to be one of the global frontrunners for the Covid-19 vaccine.
- COVAXIN: It is India's only indigenous Covid-19 vaccine.

Produced By:

- Developed by Bharat Biotech, Hyderabad in collaboration with the Indian Council of Medical Research's National Institute of Virology, Pune

Constituents and Action:

- It is an inactivated vaccine which is developed by inactivating (killing) the live microorganisms that cause the disease.
- This destroys the ability of the pathogen to replicate, but keeps it intact so that the immune system can still recognise it and produce an immune response.
- It is expected to target more than just the spike protein.
- It also aims to develop an immune response to the nucleocapsid protein (the shell of the virus that encloses its genetic material).

Significance:

COVAXIN is more likely to work against newer variants of the virus, including the UK variant, as it contains immunogens (epitopes) from other genes in addition to those from Spike protein.

Immunogen is a stimulus that produces a humoral or cell-mediated immune response, whereas antigens are any substance that binds specifically to an antibody.

All immunogens are antigens, but all antigens may not be immunogens.

Approval of COVAXIN ensures India has an additional vaccine shield especially against potential mutant strains in a dynamic pandemic situation.

SOCIAL JUSTICE**School Bag Policy 2020**

The Directorate of Education has issued a circular asking schools to follow the new 'School Bag Policy, 2020' released by the National Council of Educational Research and Training (NCERT).

Key Points**The Circular:**

- School teachers should inform the students in advance about the books and notebooks to be brought to school on a particular day and frequently check their bags to ensure that they are not carrying unnecessary material.
- It is the duty and the responsibility of the school management to provide quality potable water in sufficient quantities to all the students in the school so that they do not need to carry water bottles from their homes.

About the School Bag Policy 2020:

- It lays down the guidelines on homework and weight of school bags for classes I to XII.
- School bags should not be more than 10% of the bodyweight of students across classes I to X and there should be no bags in pre-primary students.

- It recommends no homework up to class II and a maximum of two hours per week for classes III to V, one hour a day for classes VI to VIII and two hours a day for classes IX and above.
- The Policy will also require schools to introduce infrastructural changes as students will not be able to carry many books daily.
- The schools need to provide lockers right from preschool to senior secondary to enable children to leave books in school and carry home only what is required.
- It adds that the teachers should take the responsibility of checking the weight of school bags of the students every three months on a day selected for the whole class and any information about heavy bags should be communicated to the parents.
- It adds that files and thin/light exercise books should be preferred to thick/heavy ones.

Problems of heavy school bags:

- The heavy school bag has severe/adverse physical effects on growing children which can cause damage to their vertebral column and knees.
- A heavy backpack can pull on the neck muscles contributing to headache, shoulder pain, lower back pain and neck and arm pain.
- The posture of the body also gets affected to a great extent which in the long term develops imbalances in the body and affects the health of the nervous system.

NCERT

It is an autonomous organization under the Ministry of Education (MoE) which is responsible for: Ensuring qualitative improvement in school education by undertaking and promoting research in areas related to school education.

Prepare and publish model textbooks, supplementary material.

Develop and disseminate innovative educational techniques and practices.

Act as a nodal agency for achieving the goals of Universalization of Elementary Education.

IMPORTANT FACTS FOR PRELIM

Indian Pangolin

Recently, the Odisha Forest department has stressed the need for stricter monitoring of social media platforms to check pangolin poaching and trading.

Key Points

About:

- Pangolins are scaly anteater mammals and they have large, protective keratin scales covering their skin. They are the only known mammals with this feature.

Diet:

- Insectivore- Pangolins are nocturnal, and their diet consists of mainly ants and termites, which they capture using their long tongues.

Types:

- Out of the eight species of pangolin, the Indian Pangolin (*Manis crassicaudata*) and the Chinese Pangolin (*Manis pentadactyla*) are found in India.

Difference:

- Indian Pangolin is a large anteater covered by 11-13 rows of scales on the back.
- A terminal scale is also present on the lower side of the tail of the Indian Pangolin, which is absent in the Chinese Pangolin.

Habitat:



Indian Pangolin:

- It is widely distributed in India, except the arid region, high Himalayas and the North-East.
- The species is also found in Bangladesh, Pakistan, Nepal and Sri Lanka.

Chinese Pangolin:

- It is found in the Himalayan foothills in Eastern Nepal, Bhutan, Northern India, North-East Bangladesh and through Southern China.

Threats to Pangolins in India:

- Hunting and poaching for local consumptive use (e.g. as a protein source and traditional medicine) and international trade for its meat and scales in East and South East Asian countries, particularly China and Vietnam.
- They are believed to be the world's most trafficked mammal.
- Conservation Status:
- Wildlife Protection Act, 1972: Schedule I
- IUCN Red List: Endangered
- CITES: Appendix I

DAILY ANSWER WRITING PRACTICE

Qns. Communalism is one of the most serious problems that India faces today. Critically examine the factors responsible and suggest ways to deal with it. (250 words)

Ans:

Communalism, in a broad sense, means a strong attachment to one's own community. In popular discourse in India, it is understood as an unhealthy attachment to one's own religion.

- The anti-Sikh riots-1984, the Babri Masjid-Ram Janmabhoomi controversy-1992, Gujarat communal riots-2002, Uttar Pradesh worst violence -2013 and recently Delhi communal riots-2020 broke out.
- Violation of Human Rights, economic loss, social dissonance and erosion of Constitutional values are some of the worst impacts aftermath of riots

Factors responsible for communalism:

- Divisive Politics: Communalism is often defined as a political doctrine that makes use of religious and cultural differences in achieving political gains.
- Economic Causes: Uneven development, class divisions, poverty and unemployment aggravates insecurity in the common men which make them vulnerable to political manipulation.
- Politics of Appeasement: Prompted by political considerations, and guided by their vested interests, political parties take decisions which promote communal violence.
- Isolation and Economic Backwardness of Muslim Community: The failure to adopt the scientific and technological education and thus, insufficient representation in the public service, industry and trade etc has led to the feeling of relative deprivation among Muslims.
- The resurgence of Hindu-Muslim economic competition, especially among the lower and middle class strata has fuelled the communal ideology.
- Administrative Failure: A weak law and order is one of the causes of communal violence.
- Psychological Factors: The lack of interpersonal trust and mutual understanding between two communities often result in perception of threat, harassment, fear and danger in one community against the members of the other community, which in turn leads to fight, hatred and anger phobia.
- Social Media: It is often accused of sensationalism and disseminates rumours as "news" which sometimes resulted into further tension and riots between two rival religious groups.

Measures to Deal with Communalism

- There is a need to reform in the present criminal justice system, speedy trials and adequate compensation to the victims, may act as a deterrent.
- Increase in representation of minority communities and weaker sections in all wings of law-enforcement, training of forces in human rights, especially in the use of firearms in accordance with UN code of conduct.
- Codified guidelines for the administration, specialised training for the police force to handle communal riots and setting up special investigating and prosecuting agencies can help in damping major communal disgruntlement.
- Emphasis on value-oriented education with focus on the values of peace, non-violence, compassion, secularism and humanism as well as developing scientific temper (enshrined as a fundamental duty) and rationalism as core values in children both in schools and colleges/universities, can prove vital in preventing communal feelings.

- The Hong Kong model of combating communalism by setting up a “Race Relation Unit” to promote racial harmony and facilitate integration of ethnic minorities, can be emulated by India.
- Government can encourage and support civil society and NGOs to run projects that help create communal awareness, build stronger community relations and cultivate values of communal harmony in the next generation.
- There is a need for minority welfare schemes to be launched and implemented efficiently by administration to address the challenges and various forms of discrimination faced by them in jobs, housing and daily life.
- A legislation is required to curb the communal violence. Communal Violence (Prevention, Control and Rehabilitation of Victims) Bill, 2005 must be enacted soon.

Conclusion

Maintaining communal harmony and respecting pluralism in a country as diverse as India can be a challenge. However, it is important to address the collective conscience of people of the country to uphold the constitutional values like fraternity and secularism.

A strong nation, which is built by the contribution of communities working together for its prosperity can further contribute to the maintenance of global peace and harmony.

DAILY QUIZ

1. Consider the following statements:

1. La Nina typically has a cooling effect on global temperatures.
2. El Nino and the Southern Oscillation (ENSO) cycle is a periodic fluctuation in sea surface temperatures and pressure across the Atlantic Ocean.

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

2. With reference to the Prevention of Cruelty to Animals Act, 1960, consider the following statements:

1. The Animal Welfare Board of India was set up in 1962 under the Prevention of Cruelty to Animals Act.
2. The Act provides guidelines relating to experimentation on animals for scientific purposes.

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

3. Consider the following statements regarding ‘Indian Pangolin’

1. It is protected under the Schedule I of Wildlife Protection Act, 1972.
2. The species is found at an elevation above 2500 m in the Eastern Himalayas.

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

4. With reference to COVAXIN vaccines, consider the following statements:

1. It is an inactivated vaccine that destroys the ability of the pathogen to replicate.
2. It aims to develop an immune response to the nucleocapsid protein.

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

5. Strait of Hormuz connects which of the following water bodies?

- a) Red Sea & Persian Gulf
- b) **Persian Gulf & Gulf of Oman**
- c) Red Sea & Gulf of Aden
- d) Persian Gulf & Gulf of Aden