

CURRENT AFFAIRS

WEEKLY

WEEK: 1
JANUARY
2022

MAINS

GS-I ■ ELDERLY ARE ASSETS NOT DEPENDENTS

GS-II ■ IRAN NUCLEAR DEAL

■ 'INDIA OUT' CAMPAIGN GAINING GROUND IN MALDIVES

■ THE TUSSLE OVER THE ELECTION OF MAHARASHTRA ASSEMBLY SPEAKER

■ TACKLING HATE SPEECH AND ENSURING FREEDOM OF EXPRESSION

GS-III ■ 5G TECHNOLOGY IN INDIA

■ EXPLORING THE UNIVERSE THROUGH JAMES WEBB TELESCOPE

■ CHINA IS PLANNING TO CREATE ARTIFICIAL SUN WHICH IS HOTTER THAN REAL SUN

■ INDIA ADVISES AUTO FIRMS TO START MAKING BS VI-COMPLIANT FLEX-FUEL VEHICLES

■ REGULATION OF NORTH-EAST BORDER TO CHECK POTENTIAL GOLDEN TRIANGLE FORMATION

GS-IV ■ HOW PANDEMIC AFFECTED OUR ETHICS

PRELIMS

ART & CULTURE ■ ASI TO REMOVE SAND FROM INTERIOR OF KONARK SUN TEMPLE
■ RARE BLACK ROCK ART DEPICTIONS FOUND IN ANDHRA PRADESH

HISTORY ■ WORLD SANGEET TANSEN FESTIVAL ORGANIZED IN MADHYA PRADESH

INTERNATIONAL RELATIONS ■ CHINA INVENTING NAMES FOR PLACES IN ARUNACHAL PRADESH
■ ISRAEL APPROVES MAMMOTH GOLAN HEIGHTS PLAN
■ REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP (RCEP) COMES INTO EFFECT

POLITY & GOVERNANCE ■ CHAKMAS AND HAJONGS TO NOT COOPERATE IN CENSUS
■ ELECTORAL BONDS SALE OPENS ON JAN 1

ECONOMY ■ "SOYA MEAL" DECLARED AS AN ESSENTIAL COMMODITY

SCIENCE & TECHNOLOGY ■ CHINA LAUNCHES ZIYUAN-1 02E SATELLITE

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The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS ANALYST

WEEK- 1 (JANUARY, 2022)

CONTENTS

Section - A: MAINS CURRENT AFFAIRS			
	Area of GS	Topics in News	Page No.
GS I	INDIAN SOCIETY	<ul style="list-style-type: none">Elderly are assets not dependents	02
GS II	INTERNATIONAL RELATIONS	<ul style="list-style-type: none">Iran nuclear deal	05
	POLITY & GOVERNANCE	<ul style="list-style-type: none">'India Out' Campaign gaining ground In Maldives	08
		<ul style="list-style-type: none">The tussle over the election of Maharashtra Assembly Speaker	11
		<ul style="list-style-type: none">Tackling Hate Speech and Ensuring Freedom of Expression	14
GS III	SCIENCE & TECH.	<ul style="list-style-type: none">5G Technology in India	18
		<ul style="list-style-type: none">Exploring the universe through James webb Telescope	20
		<ul style="list-style-type: none">China is planning to create Artificial Sun which is hotter than real Sun	22
	ENVIRONMENT	<ul style="list-style-type: none">India advises auto firms to start making BS VI-Compliant Flex-Fuel Vehicles	24
	SECURITY	<ul style="list-style-type: none">Regulation of North-East border to check potential golden triangle formation	26
GS IV	ETHICS	<ul style="list-style-type: none">How Pandemic affected our ethics	29

Section - B: PRELIMS CURRENT AFFAIRS			
	Area of GS	Topics in News	Page No.
GS I	ART & CULTURE	<ul style="list-style-type: none">ASI to remove sand from interior of Konark Sun Temple	33
		<ul style="list-style-type: none">Rare black rock art depictions found in Andhra Pradesh	35
	HISTORY	<ul style="list-style-type: none">World Sangeet Tansen festival organized in Madhya Pradesh	37
GS II	INTERNATIONAL RELATIONS	<ul style="list-style-type: none">China inventing names for places in Arunachal Pradesh	38

GS II	INTERNATIONAL RELATIONS	● Israel approves Mammoth Golan Heights Plan	39
		● Regional Comprehensive Economic Partnership (RCEP) comes into effect	40
GS III	POLITY & GOVERNANCE	● Chakmas and Hajongs to not cooperate in census	41
		● Electoral bonds sale opens on Jan 1	42
GS III	ECONOMY	● "Soya Meal" declared as an Essential Commodity	43
	SCIENCE & TECH	● China launches Ziyuan-1 02E satellite	44

SECTION: A
(MAINS)

CURRENT AFFAIRS

ELDERLY ARE ASSETS NOT DEPENDENTS

CONTEXT:

The data from the NFHS-5 shows that Life expectancy in India has increased from 50 (1970-75) to 70 years (2014-18). As a result, the number of elderly people in India (over 60 years) is already 137 million, and is expected to increase by 40% to 195 million in 2031 and 300 million by 2050.

Thus, there is a need to relook at problems of the elderly, and their contribution to the society.

◎ BACKGROUND

- The joint family system is present in the Indian society for centuries. Despite this, elderly are considered more as dependents and liability to the family.
- The lack of understanding about their knowledge, their experience about their work and life in general, has made them vulnerable and thus resulted in their physical and mental abuse but has also caused psychological strain of them.
- Secondly, while discussions are occurring about harnessing 'demographic dividend', it is also necessary to take steps for the utilising elderly as assets and the challenges they face in the present times.
- This will result in turning them from dependents into productive members of society, and creating a win situation.

◎ ANALYSIS

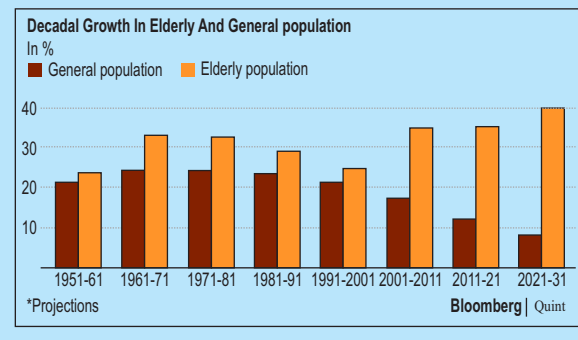
Who are elderly?

- Conventionally, "elderly" has been defined as a chronological age of 65 years old or older, while those from 65 through 74 years old are referred to as "early elderly" and those over 75 years old as "late elderly."
- In India and in most countries, at present, the retirement age of a working person is 60 years.

The numbers

- There are nearly 138 million elderly persons in India in 2021, including 67 million men and 71 million women, according to the report.
- An increase of nearly 34 million elderly persons was seen in 2021 over the population census of 2011. This number is expected to increase by 56 million by 2031.
- Kerala currently has the highest elderly population (16.5 per cent), followed by Tamil Nadu (13.6 per cent), Himachal Pradesh (13.1 per cent), Punjab (12.6 per cent) and Andhra Pradesh (12.4 per cent) in 2021.

- Bihar, Uttar Pradesh and Assam have the least proportion with 7.7 per cent, 8.1 per cent and 8.2 per cent, respectively.



Policy challenges posed by increased population

- Ensuring income security for the elderly
- Mitigating the fiscal costs that arise from a high old-age dependency ratio
- Lack of dedicated service and product outlets
- Isolation of seniors in a changing society
- Increasing healthcare costs
- Mental health issues
- Lack of financial support
- In addition, most of the aged are not accorded the dignity of care they deserve in later life.

Why Elderly should be considered assets?

The elderly are assets not only for the family, but also for the society and nation. It can be seen from their knowledge and experience in various domains as below-

• Economic aspects-

- ▶ Many private and government companies retain retired person to harness their knowledge and experience. Similarly, government retains civil servants and many politicians continue to serve and get re-elected for long time beyond retirement age. Thus, there is a need to recognise and replicate this model in other areas of economic relevance.

- **Personal life experience-**
 - ▶ Elder people have faced many aspects of life in comparison to children and adults. The joint family system for generations has seen the passage of knowledge from generation to generation. It has benefitted adults to understand the social change, become more Emotionally Intelligent to tackle problems of life, and understand the significance of many aspects like health and fitness.
 - **Traditional knowledge-**
 - ▶ Technology has given new aspects to life and brought many socio-economic benefits. But it is also important to realise the importance the traditional and cultural values that elderly possess. For instance, COVID pandemic has made people realise benefits of boosting immunity with traditional foods like 'Golden milk' and 'Giloy' which has gained mass acceptance.
 - **Focus on balanced and sustainable life-**
 - ▶ The greater focus on industrialisation has neglected the environmental aspects and thus leads to loss of biodiversity. But the negative consequences of reckless industrialisation have made us realise old saying, which focussed less on monetary aspects and more on social and environmental aspects to maintain intergenerational parity.
- Measures for the elderly-**
- Considering the potential of elderly as assets, various constitutional, legislative and social steps are taken in India for the benefit of the elderly and to prevent discrimination against them.
- **Constitutional Protection:**
 - ▶ **Article- 41:** Right to work, to education and to public assistance in certain cases: The State shall, within the limits of economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, and in other cases of undeserved want.
 - ▶ **Article- 46:** The State shall promote with special care the educational and economic interests of the weaker sections of the people and shall protect them from social injustice and all forms of exploitation.
 - **National Policy for Older Persons 1999-** This policy included the following steps-
 - ▶ Setting up of a pension fund for ensuring security for those persons who have been serving in the unorganized sector
 - ▶ Construction of old age homes and day care centres for every 34 districts
 - ▶ Establishment of resource centres and reemployment bureaus for people above 60 years
 - ▶ Concessional rail/air fares for travel within and between cities, i.e., 30% discount in train and 50% in Indian Airlines.
 - ▶ Enacting legislation for ensuring compulsory geriatric care in all the public hospitals.
 - **Insurance for the elderly-**
 - ▶ **Ayushman Bharat Scheme-** It is the government's health insurance scheme which includes various former schemes for the elderly such as Senior Citizen Health Insurance Scheme (SCHIS) and Rashtriya Swasthya Bima Yojana (RSBY).
 - ▶ **Rashtriya Arogya Nidhi (RAN)-** The scheme provides financial assistance to patients, living below poverty line and who are suffering from major life threatening diseases, to receive medical treatment at any of the super speciality Hospitals/Institutes or other Government hospitals.
 - ▶ **LIC Insuranceschemes-** It has been providing several schemes for aged persons like Jeevan Dhara Yojana, Jeevan Akshay Yojana and Medical Insurance Yojana.
 - **Maintenance and Welfare of Parents and Senior Citizens (MWPC) Act, 2007-**
 - ▶ It was enacted to provide financial security, welfare and protection for senior citizens. It requires children to provide maintenance for their parents, and the government to provide old age homes and ensure medical care for senior citizens.
 - **Other steps-**
 - ▶ **Tax benefits** to elderly persons under Section- 88B, 88D and 88DDB of Income Tax Act.
 - ▶ Government also proposed to allot 10% of the houses constructed under government schemes for the urban and rural lower income segments to the older persons on easy loan.

Challenges in utilising the full potential of elderly-

Despite the steps taken, there are certain challenges faced by the elderly which prevent them from utilising their full potential. It not only multiplies their problems, but also reflects elderly as liabilities not assets. Some challenges are-

- **Economic problems-**

- ▶ It includes problems such as loss of employment, income deficiency and economic insecurity. It makes them dependent than being as asset.

- **Psychological problems-**

- ▶ It includes problems related with their psychological and social maladjustment as well as the problem of elder abuse.
- ▶ The social isolation and alienation, felling of restlessness and absence of a daily schedule after retirement further accentuates this problem.

- **Physical and physiological problems-** It includes health and medical problems, nutritional deficiency, and the problem of adequate housing etc. It can be further seen in following aspects-

- ▶ **Poor Health infrastructure-**

- The challenge is to provide a quality, affordable and accessible health care facility. They need at home services like tele or home counselling, physiotherapy and rehabilitation services as well as mental health counselling.
- According to the 2016 Healthcare Access and Quality Index (HAQ), India improved its HAQ score from 24.7 in 1990 to 41.2 in 2016. However, it is still well below the global average of 54 points. The issue is worse in small towns and rural areas where the basic health care services are also inadequate.
- A 2007 law requires states to ensure designated facilities for the elderly in each district hospital, led by doctors with experience in geriatric care. Yet, a status report filed by the government in the Supreme Court in 2019 states that 16 states and union territories do not have a single ward/bed dedicated to the elderly

- ▶ **Lack of health insurance-**

- Health care for the elderly, unfortunately, has been greatly neglected. Further, the inability to earn and unaffordability of health services leads to a vicious life cycle of poor health and poverty. The government schemes that cover the elderly are largely inadequate.
- Despite Ayushman Bharat, the government's health insurance scheme for the underprivileged and private health insurance, a NITI Aayog report suggests that 400 million Indians have no financial

cover for health expenses, which includes a large number of elderly people. Both the Centre and the states have pension plans for the elderly, but they offer a nominal amount as low as ₹350 to ₹400 per month in some states. It is also not universal.

- **Change in social value system-**

- ▶ The changing institution of family, rise in nuclear families has made them more vulnerable, dependent on themselves and government.
- ▶ Factors such as family neglect, low education levels, socio-cultural beliefs and stigma, low trust and affordability in institutional health care services exacerbate problems for the elderly.

- **Greater focus on young population-**

- ▶ Due to large demographic dividend, the focus of government schemes is more on young population like promoting entrepreneurs, unemployment and poverty. While the COVID pandemic has brought elderly and children in the limelight, there is a lack of sustained focus on their needs.

Suggestive measures

The multiple strategies at different levels of policy making, planning and programming should be adopted to harness this vast human resource for promoting the involvement and participation of senior citizens in socio-economic development process on a larger scale. Some steps can be-

- **Strengthened pension system:** The need of the hour is to strengthen the pension systems through better funding and coverage.
- **Holistic health infrastructure-** Affordable and accessible health care with special health facilities for elderly at district level. Use of technology in preventive healthcare and counselling through telemedicine facilities can be of great use.
- **Inclusion in economic development-** There can be increase in retirement age based of performance and willingness can make them economically dependent and productive. It will also remove social isolation and alienation for the elderly.
- **Social inclusion:** Social inclusion through recognising their contribution in their respective fields and the society in general, can result in moral boosting and psychological benefits to the elderly.
- **Awareness:** Increasing awareness about laws, regulations and government schemes.

IRAN NUCLEAR DEAL

CONTEXT:

The latest round of indirect talks between Iran and the United States resumed in Vienna, with Tehran focused on getting U.S. sanctions lifted again, as they were under the original bargain, despite scant progress on reining in its atomic activities.

◎ BACKGROUND

- Iran's nuclear ambitions have been a focus of international diplomacy for decades.
- Faced with accusations of nuclear weapons pursuits in violation of its NPT commitments, Iran concluded a 2015 agreement.
- The deal officially called Joint Comprehensive Plan of Action (JCPOA) commonly known as the Iran deal was signed on July 14, 2015.
- It was signed between Iran, the U.S., China, France, Russia, the U.K., Germany, and the European Union.
 - ▶ P5 is the 5 permanent members of the UNSC (US, China, France, Russia, and the UK).

Key-Points

The deal aimed at curbing Iran's nuclear programme:

- Iran agreed not to build any more heavy water facilities.
 - Eliminate its stockpile of medium-enriched uranium.
 - Cut its stockpile of low-enriched uranium, and reduce the number of its gas centrifuges.
 - In return, Iran will recover assets worth \$100 billion frozen in overseas banks, and sanctions on the country by the U.S., the U.N., and the E.U. will be lifted.
- The United States reinstated economic sanctions on Iran after it abandoned the landmark nuclear deal in May 2018.
 - Iran later breached many of the deal's nuclear restrictions and kept pushing well beyond them.

◎ ANALYSIS

Why did the US pullout from Nuclear Deals?

- As per the US administration, 'one-sided deal' did not bring calm and peace to the region.

- Iran's rising economic profile would embolden it to increase its regional presence and would pose a strategic threat to the interests of the U.S.-Saudi-Israel axis.
- So, US decided to unilaterally pull it out of the Iran nuclear deal and to re-imposing nuclear sanctions against that country.

Why the talks are revived now?

- Negotiations to restore the 2015 agreement began earlier this year but stopped in June.
- They resumed in late November with the latest round getting underway in Vienna.
- The aim is to bring back Washington, which left the deal in 2018, and curtail Tehran's nuclear activities, stepped up in response to the US withdrawal and re-imposed sanctions.

What is Iran's current nuclear activity?

- In response to the other parties' actions, which Tehran claimed amounted to breaches of the deal, Iran started exceeding agreed-upon limits to its stockpile of low-enriched uranium in 2019, and began enriching uranium to higher concentrations.
- It also began developing new centrifuges to accelerate uranium enrichment; resuming heavy water production at its Arak facility; and enriching uranium at **Fordow**, which rendered the isotopes produced there unusable for medical purposes.
- In 2020, Iran took more steps away from its nuclear pledges, following a series of attacks on its interests.
- In January, after the U.S. targeted killing of a top Iranian general, Qasem Soleimani, Iran announced that it would no longer limit its uranium enrichment.
- In October, it began constructing a centrifuge production center at Natanz to replace one that was destroyed months earlier in an attack it blamed on Israel.
- In November, in response to the assassination of a prominent nuclear scientist, which it also attributed to Israel, Iran's parliament passed a law that led to a **substantial boost in uranium enrichment at Fordow**.



- The following year, Iran announced new restrictions on the IAEA's ability to inspect its facilities, and soon after ended its monitoring agreement with the agency completely.

Uranium stockpile in Iran

- According to a recent report from the **International Atomic Energy Agency (IAEA)**, Iran's stockpile of uranium enriched to 20 percent uranium-235 is 114 kilograms, up from 85 kilograms.
- The stockpile of uranium enriched to 60 percent U-235 is 17.7 kilograms, up from 10 kilograms.

What reasons could push Iran to sign a deal?

- **Removal of sanctions:** For Tehran, it is all about sanctions removal. Iran insists all US sanctions

must be lifted before steps are taken on the nuclear side.

- **Water crisis:** The country's worsening water shortage poses a severe short-term political risk.
- **Climate change:** Climate change poses an even more severe risk for the long medium and term.

Pre and Post Effect of JCPOA

● Prior of JCPOA

- ▶ Prior to the JCPOA, Iran's economy suffered years of recession, currency depreciation, and inflation, largely because of sanctions on its energy sector.

● Lifting of sanctions

- ▶ With the sanctions lifted, inflation slowed, exchange rates stabilized, and exports—especially of oil, agricultural goods, and luxury items—skyrocketed as Iran regained trading partners, particularly in the EU.

After JCPOA

- ▶ After the JCPOA took effect, Iran began exporting more than 2.1 million barrels per day.
- ▶ However, these improvements did not translate to a significant increase in the average Iranian household's budget.
- **End of sanctions**
 - ▶ The end of sanctions waivers on oil exports and the restoration of U.S. sanctions in 2018 has once again cut deeply into a vital source of national revenue: oil and petroleum products account for 80 percent of Iran's exports.

What does the world want?

- Nuclear physicists, military officials, non-proliferation experts, and more than 100 countries across the globe have all voiced their support for the Iran nuclear deal because it is the best solution available to prevent Iran from obtaining a nuclear weapon without taking military action.
- **Russia and China:** Russia and China share western goals, wanting to see the JCPOA resurrected and the avoidance of any renewed crisis in the region.
- **Europe:** All five countries who will be sitting around the table with Iran want a return to the full implementation of the deal along with the necessary lifting of US sanctions.
- **United States:** Washington backs a return to the JCPOA and expected Iran's new president to return to it after a suitable interval. However it seems to

have badly misjudged the mood in Tehran. The United States says it was still too soon to say if Tehran had returned to the negotiations with a constructive approach.

How would it impact India?

Both the United States and Iran are strategically and economically important for India. Ideally, India wants to have good relations with Iran as well as the US. There are several ways India could be affected by this changing scenario:

- **US, an indispensable partner:** The US is clearly an indispensable partner for India for the future, in the context of new threats and challenges emerging in Asia.
- **Indo-US relation:** The recent situation will affect the "strategic partnership" between India and the US as has asked. India to be more proactive in the Indo-Pacific, with an eye on China.
- **Impact on Inflation:** Iran is India's 3rd biggest supplier, any increase in prices will hit inflation levels.
- **Chabahar port:** The Chabahar Port Project, along with the International North-South Transport Corridor (INSTC), has held a central position in India-Iran relations.

© CONCLUSION

The eighth round of the Vienna talks in 2021 has provided an ideal blueprint with progress expected in achieving a successful closure to the Iranian nuclear issue.

'INDIA OUT' CAMPAIGN GAINING GROUND IN MALDIVES

CONTEXT:

'India out' campaigning which has been running on social media platforms since last year, recently intensified with the leader of opposition party leading it.

◎ BACKGROUND

- The anti-India sentiment did not just sprout overnight last year, but is nearly a decade old and can be traced back to when **Abdulla Yameen Abdul Gayoom** of the **Progressive Party (PPM)** became president in 2013.
- The "India Out" campaign was launched in the Indian Ocean nation last year by the Progressive Congress – a coalition of the opposition parties led by the Progressive Party of Maldives (PPP) – to protest against the "India First" policy pursued by the ruling Maldivian Democratic Party (MDP).

Pro-India and Pro-China

There are two main political parties in the Maldives.

- One is Progressive Party (PPM) which is main opposition party.
 - Second is Maldivian Democratic Party (MDP) which is currently the ruling party in Maldives.
 - It is being experienced that PPM is pro-China and MDP is pro-India.
- India-Maldives relations deteriorated during the PPM's five-year rule and the anti-India sentiment was apparent even back then.
 - A lot of anti-India rhetoric was used during that time because the Maldivian government was pro-China.

◎ ANALYSIS

The country profile

- An archipelago of 1,192 coral island, Maldives is located in the Indian Ocean, 400km south-west of India.
- None of the coral islands stand more than 1.8 metres (six feet) above sea level, making the country vulnerable to any rise in sea levels associated with global warming.
- This republic nation has a population of around 540,000 people dispersed across 185 islands.

- Tourism is Maldives' largest economic activity and accounts for around 70 per cent of Gross Domestic Product (GDP).



India-Maldives relations

- India and Maldives share ethnic, cultural, linguistic, and commercial ties. India was amongst the first to recognize Maldives after its independence in 1965 and later established its mission at Male in 1972.
- Presently, India is engaged in developing 45 infrastructure development projects in Maldives.

- In 2020, India decided to support the implementation of Greater Malé Connectivity Project in Maldives.
- In April 2021, both sides held their first meeting of the Joint Working Group on counterterrorism, countering violent extremism and de-radicalisation.

What are the reasons behind anti-India sentiments?

- **Gift:** India gave two **Dhruv Advanced Light Helicopters (ALF)** to the Maldives in 2010 and 2015 both of which were to be used for ocean search-and-rescue operations, maritime weather surveillance and for airlifting patients between islands.
 - ▶ A controversy took place that the helicopters marked the start of military presence in the country. The Maldives government requested India to take back the helicopters in 2016, but India refused to do so.
- **Lack of transparency:** Another issue is the lack of transparency when it comes to the signing of agreements between India and the Solih government.

Significance of ties with Maldives to India-

- **Strategic relevance-**
 - ▶ Maldives is located at a strategic location in the Indian Ocean, next to the shipping lanes which ensures uninterrupted energy supplies to countries like China, Japan and India.
 - ▶ Maldives is a member of SAARC and to become a 'net security provider' in the Indian Ocean region, it is necessary for India to maintain good ties with Maldives.
 - ▶ The growing role of China in Maldives has also made it necessary for India to ensure its own interest are not compromised and China do not pose any security threat to India.
- **Geopolitical significance-**
 - ▶ Maldives had consistently supported India in multilateral fora, such as the UN, the Commonwealth, the NAM and the SAARC.
 - ▶ Maldives also co-sponsored the G-4 draft resolutions on reforms in United Nations. India has extended support to Maldives candidature for a non-permanent seat in the UN Security Council for the term 2019-20.
- **Economic relations-**
 - ▶ India-Maldives bilateral trade in 2020 stands at around US\$ 290.27 mn with trade balance for India.

- ▶ Indian exports to the Maldives include a variety of engineering and industrial products like drugs and medicines radar apparatus, rock boulders, aggregates, cement and agriculture produce like rice, spices, fruits, vegetables and poultry produce etc.
- ▶ Maldives also hold key place in the India's vision of SAGAR (security and growth for all in the region) and 'Neighborhood first' policy.

- **Cultural relations and People to people ties-**

- ▶ There are 25,000 Indian nationals living in Maldives (second largest expatriate community).
- ▶ About 25% of Doctors and Teachers in Maldives are Indian nationals.

Why is India significant for Maldives?

- **Economic relations**

- ▶ India is Maldives' 4th largest trade partner. Indian imports from the Maldives primarily comprise scrap metals.
- ▶ State Bank of India (SBI) has been playing a vital role in the economic development of the Maldives since February, 1974 by providing loan assistance for promotion of island resorts, export of marine products and business enterprises

- **Strategic relevance**

- ▶ Due to India's strategic location, India can act a first response nation in case of any adversity in Maldives.
- ▶ Secondly, India can act as a great balancer to China due to growing Chinese investments in Maldives.
- ▶ It is strategically located along major sea lanes in the Indian Ocean. A significant portion of world trade takes place through the Indian Ocean. All the energy supplies coming from Gulf nations pass through this area.

- **Security importance**

- ▶ India acted as the first responder in 1988 and prevented a military coup in Maldives under 'Operation Cactus'.
- ▶ Joint naval exercises are also being conducted in the Indian Ocean.

- **Tourism**

- ▶ In 2018, India was the 5th largest source of tourist arrivals in Maldives.
- ▶ Indian tourists also account for close to 6% of tourists Maldives receives every year

◦ **Maldivian diaspora in India-**

- ▶ India is also a preferred destination for Maldivians for education, medical treatment, recreation and business. According to MEA, more and more Maldivians are seeking long term visa for pursuing higher studies/medical treatment in India

◎ **WAY FORWARD**

- Both India and Maldives are crucial to each other. The historic ties as well as contemporary relations among the two makes it necessary that bilateral issues must be resolved amicably. Various mechanisms like annual summits and 2+2

dialogue can be explored for regular exchange of information.

- Secondly, sovereignty is a key concern of any nation. While India should protect its economic and geopolitical interests in the country, India should refrain from interfering in its internal matters.
- Thirdly, Maldives should understand that in a multipolar world, partnership with all the neighbor states are important and political reasons should not become a reason of poor ties.
- The India Maldives relations have stood the test of time which reflects the depth of bond between the two. While some hurdles appear time and again, the mutual relationship should continue to grow in the interest of each other.

THE TUSSLE OVER THE ELECTION OF MAHARASHTRA ASSEMBLY SPEAKER

CONTEXT:

Recently, instances of vandalism were observed between Kannada and Marathi groups in the border regions of both the states. The dispute is over the sovereignty of the border areas as the inhabitants of various linguistic identities are found in both the regions.

◎ BACKGROUND

- The dispute is over the areas of Vijayapura, Belagavi, Dharwad and Uttara Kannada.
- Both the states claim the areas to be part of their state due to the Maratha or Kannada linguistic identity of the people.
- However, the dispute lies over how many people belong to which linguistic identity.
- Various reports have given conflicting data and recommendations and thus the conflict continues.
- In this background the dispute over the regions continue which impacts social and economic growth of the region.

◎ ANALYSIS

The key disputed regions-

The disputed regions majorly include in state of Karnataka and some in Maharashtra. The key regions are-

- **Regions in Karnataka-** These include areas of Vijayapura, Belagavi, Dharwad and Uttara Kannada.
- **Regions in Maharashtra-** These include villages in Sangli district of Maharashtra.

Why is the conflict occurring?

The conflict is mostly over the numbers of people of different linguistic origin. It can be seen in the following chronology-

- **Colonial era-**
 - ▶ In the colonial era, several districts that are now part of Karnataka were under the erstwhile Bombay Presidency. These areas include Vijayapura, Belagavi, Dharwad and Uttara Kannada. This status quo continued until 1956.
- **States Reorganization Act 1956-**
 - ▶ Under the act, Belagavi and 10 taluks of the Bombay Presidency were merged with the Mysore state, which was later renamed Karnataka in 1973. The decision was based on

an 1881 census that identified 64.39 per cent of the population of Belagavi as Kannada-speaking and 26.04 per cent as Marathi-speaking. However, Marathi speaking population of the region rejected the 1881 census data as they claimed that they now outnumbered Kannada speakers.

- ▶ Maharashtra invoked Section 21(2) (b) of the 'States Reorganization Act' in 1957 to raise an objection to Marathi and Konkani-speaking regions being added to Karnataka. It claimed an area of 2,806 square miles in 814 villages and the three urban settlements of Belagavi, Karwar and Nippani, on the grounds of continuity, linguistic majority and 'people's wishes'.

States Reorganization Act 1956-

- The act leads to reorganization of Indian states on the basis of linguistic identity and administrative convenience. It divided India into 14 states and six Union Territories. It was framed on the basis of report Pant commission.

- **Mahajan Commission-**

- ▶ It was set up by the union government in 1966 to look into the border disputes and claims between Karnataka and Maharashtra. The report was tabled in Parliament in 1972. It granted 264 villages to Maharashtra and 247 villages to Karnataka. The commission granted Belagavi or Belgaum to Karnataka.
- ▶ While the report was accepted by Karnataka, the state of Maharashtra rejected it. The report is yet to be implemented by the Union government.

- **Judiciary intervention-**

- In 2004, the Maharashtra government approached the Supreme Court seeking a settlement of the dispute under Article 131(b) of the Constitution — which gives the top court original jurisdiction in disputes between states, or states and the Centre — claiming 814 villages from Karnataka. The case is still pending before the apex court.

Impact of the conflict-

The delayed resolution of the territorial conflict has led to several impacts on the people of the regions and the country as a whole. The impacts are-

- **Socio-economic impact-**
 - ▶ The acts of vandalism and regular conflicts impacts continued investment and prosperity of the regions thus impacting their economic growth and prosperity.
 - ▶ The conflict over these issues creates a division among people along linguistic identity and impacts long term relations.
- **Political issues-**
 - ▶ The unresolved issues give a chance to the political parties to misuse these issues to raise communal tensions for the vote bank.
- **Security issues-**
 - ▶ There is possibility that such issues are being used by antisocial elements to create violence and other antisocial activities

Challenges in resolving the dispute-

As territorial disputes also have an emotional impact on the lives of the people, the following challenges are observed in resolution of the dispute-

- **Lack of consensus –**
 - ▶ There is a lack of consensus between the states over the recommendations of 1956 Act and Mahajan report. And the matter is still pending in the judiciary.
- **Political issue-**
 - ▶ Language is a key factor in the Indian democratic set up, thus the border issue become more of a political issue than being a territorial dispute.
 - ▶ The slow implementation of projects in dry areas of Sangli in Maharashtra is also being used as a reason of mobilizing people's support.
 - ▶ While Maharashtra has demanded for the inclusion of certain areas in its territory, Karnataka is also demanding inclusion of Kannada speaking areas of Maharashtra in its territory.
- **Importance of the region-**
 - ▶ Many areas have huge economic significance for the states. Like Belgaum is a source of vegetables, fruits, meat, fish, mining production, and wood (due to heavy rainfall and the abundance of water).
- **Slow response by the union government and judiciary**

- ▶ The Mahajan commission was tabled in 1972 in Parliament but still it has not been implemented by the central government.
- ▶ Maharashtra government has approached the Supreme Court in 2004 under Article 131(b) of the Constitution seeking a settlement of the dispute, but the matter has not been taken up by the judiciary.

Article 131 of the Constitution of India

Subject to the provisions of this Constitution, the Supreme Court shall, to the exclusion of any other court, have original jurisdiction in any dispute—

- between the Government of India and one or more States; or
- between the Government of India and any State or States on one side and one or more other States on the other; or
- between two or more States, if and in so far as the dispute involves any question (whether of law or fact) on which the existence or extent of a legal right depends:
- Provided that the said jurisdiction shall not extend to a dispute arising out of any treaty, agreement, covenant, engagement, sanad or other similar instrument which, having been entered into or executed before the commencement of this Constitution, continues in operation after such commencement, or which provides that the said jurisdiction shall not extend to such a dispute

Path to resolve the conflict

As the benefit of people is the key desired outcome of a political state, the following steps can be taken to resolve the issue-

- **Updated data-** There is need to update data of Marathi and Kannada speakers so that actual demographic condition of the disputed region can be assessed.
- **Need of judicial interference-**
 - ▶ Supreme Court should take up matter at the earliest and a judiciary monitored committee can be appointed to reassess the key demands and give suggestions.
 - ▶ Judiciary should take relevant steps in the meantime to take action against antisocial elements for inciting violence in the area.
- **Focus on prevention of dispute:** Further, there is need of self-restrain among the political parties and they should prevent misuse of territorial dispute for narrow political gains.

- **People awareness and understanding:** Further, people should understand that in the present era of diversity, human and socio-economic development should be prominent as against territorial disputes.

◎ **CONCLUSION**

There is a need to understand border issues have short term and long term impact on the people and the society as whole. Thus timely and consensual resolution is the key.

TACKLING HATE SPEECH AND ENSURING FREEDOM OF EXPRESSION

CONTEXT:

Hate speech is considered a black spot on the democratic values for a long time. But the use of social media in recent times to spread hate speech has aggravated these concerns because social media is largely unregulated, users are dispersed and anonymous, thus making it difficult for the states to regulate hate speech while promoting freedom of expression.

◎ BACKGROUND

- Hate speech and freedom and expression are closely related and thus, even after repeated attempts, the delicate balance has not been made between the two.
- While democracies across the world ensure freedom of expression, there is a need to demarcate a thin line with hate speech so that one right should not hamper another's right and dignity.
- Several attempts are made in India and globally to value freedom of expression and prevent hate speech, there is a need to evaluate previous attempts and take further steps in this direction.

◎ ANALYSIS

What is 'hate speech'?

● Global context

- There is no international legal definition of hate speech, and the characterization of what is 'hateful' is controversial and disputed.
- United Nations in its '**Strategy and Plan of action on Hate Speech**' considers the term hate speech as any kind of communication in speech, writing or behaviour, that attacks or uses pejorative or discriminatory language with reference to a person or a group on the basis of who they are i.e. based on their religion, ethnicity, nationality, gender or other identity factor.
- International law does not prohibit hate speech rather it prohibits the incitement to discrimination, hostility and violence.

● Indian context

- Hate speech has not been defined in any law in India. However, legal provisions in certain legislations prohibit select forms of speech as an exception to freedom of speech.
- **Article 19(2)** of the Constitution guarantees freedom of speech and expression to all citizens of India.

- This article is subjected to certain restrictions, namely, sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence.
- Responsible speech is the essence of the liberty granted under **Article 21** of the Constitution.
- One of the greatest challenges before the principle of autonomy and free speech principle is to ensure that this liberty is not exercised to the detriment of any individual or the disadvantaged section of the society.
- In a country like India, with diverse castes, creed, religions and languages, this issue poses a greater challenge.

Legislations around Hate speech

In India, at present, the following legislations have bearing on hate speech-

- Indian Penal Code, 1860 (hereinafter IPC)
 - ▶ **Section 124A** IPC penalizes seditious speech
 - ▶ **Section 153A** IPC penalizes 'promotion of enmity between different groups on grounds of religion, race, place of birth, residence, language, etc., and doing acts prejudicial to maintenance of harmony'.
 - ▶ **Section 153B** IPC penalizes 'imputations, assertions prejudicial to national-integration'.
 - ▶ **Section 295A** IPC penalizes 'deliberate and malicious acts, intended to outrage religious feelings of any class by insulting its religion or religious beliefs'.
 - ▶ **Section 298** IPC penalizes 'uttering, words, etc., with deliberate intent to wound the religious feelings of any person'.
 - ▶ **Section 505(1) and (2)** IPC penalizes publication or circulation of any statement, rumor or report causing public mischief and enmity, hatred or ill-will between classes.

- **Representation of The People Act, 1951**
 - ▶ **Section 8** disqualifies a person from contesting election if he is convicted for indulging in acts amounting to illegitimate use of freedom of speech and expression.
 - ▶ **Section 123(3A)** and **Section 125** prohibits promotion of enmity on grounds of religion, race, caste, community or language in connection with election as a corrupt electoral practice and prohibits it.
- **Protection of Civil Rights Act, 1955**
 - ▶ Section 7 penalizes incitement to, and encouragement of untouchability through words, either spoken or written, or by signs or by visible representations or otherwise
- **Religious Institutions (Prevention of Misuse) Act, 1988**
 - ▶ Section 3(g) prohibits religious institution or its manager to allow the use of any premises belonging to, or under the control of, the institution for promoting or attempting to promote disharmony, feelings of enmity, hatred, ill-will between different religious, racial, language or regional groups or castes or communities.
- **Cable Television Network Regulation Act, 1995**
 - ▶ Sections 5 and 6 of the Act prohibits transmission or retransmission of a programme through cable network in contravention to the prescribed programme code or advertisement code. These codes have been defined in rule 6 and 7 respectively of the Cable Television Network Rules, 1994.
- **Cinematograph Act, 1952**
 - ▶ Sections 4, 5B and 7 empower the Board of Film Certification to prohibit and regulate the screening of a film.
- **Code of Criminal Procedure, 1973**
 - ▶ Section 95 empowers the State Government, to forfeit publications that are punishable under sections 124A, 153A, 153B, 292, 293 or 295A IPC.
 - ▶ Section 107 empowers the Executive Magistrate to prevent a person from committing a breach of the peace or disturb the public tranquillity or to do any wrongful act that may probably cause breach of the peace or disturb the public tranquillity.

- ▶ Section 144 empowers the District Magistrate, a Sub-divisional Magistrate or any other Executive Magistrate specially empowered by the State Government in this behalf to issue order in urgent cases of nuisance or apprehended danger.
- ▶ The above offences are cognizable. Thus, have serious repercussions on liberties of citizens and empower a police officer to arrest without orders from a magistrate and without a warrant as in section 155 CrPC.

What are the reasons of use of Hate speech?

- Hate speech is used by people for multiple reasons-
 - ▶ It can be used as a means to gain purposive ends of certain individuals like electoral gains.
 - ▶ It can also be used to demean a particular community or gender and reflect their superiority.
 - ▶ The stereotypes and rigid ideologies prevents the co-existence of several communities and can result into hate speech.

Assessing the impacts

- Such instances of hate speech can have following impacts-
 - ▶ **On the victims-**
 - They may be forced to toe a certain line of thought held by the other community. For instance, female abuse is called as a mean to reflect male superiority.
 - A long term feeling of alienation, psychological inferiority can occur which impacts individual autonomy and decision making which is at the core of democratic values.
 - ▶ **On society-**
 - It generates intolerance and hatred among various communities which can result into communal hatred and even violence
 - It can be demeaning and divisive in nature, creating impacting communal harmony and creating permanent strains on communal ties.
 - It challenges the free and open nature of societies as a core theme of democracy.

Value of Freedom of expression-

- Right of freedom of speech and expression is one of the most essential liberties recognized by the democratic states. The objective of free speech in a democracy is to promote plurality and diversity

of opinions. Thus, even a speech that is 'vehement, caustic, and sometimes unpleasantly sharp' is protected from State intervention.

- **J.S Mill** in his work "On Liberty" says-
 - ▶ "If all mankind minus one, were of one opinion, and only one person were of the contrary opinion, mankind would be no more justified in silencing that one person, than he, if he had the power, would be justified in silencing mankind.
- On the concept of **Hate Speech**, philosopher **Jeremy Waldron** argues that
 - ▶ where speech injures dignity, it will do more harm than simply offend its target. It would undermine the "implicit assurance" that all citizens of a democracy, including minorities and vulnerable groups are placed on the same footing as the majority. While the right to criticise any group should continue to exist, speech that negates the right of a vulnerable group should be regulated.

Free speech has always been considered to be the quintessence of every democracy. The freedom of expression was one of the core freedoms that were incorporated in the Bill of Human Rights. The greater value accorded to the doctrine of free speech explains the reluctance of the law makers and judiciary in creating exceptions that may curtail the spirit of this freedom.

Hate speech and Seditious-

- An offence of hate speech affects the State indirectly by disturbing public tranquility, while sedition is an offence directly against the State.
- To qualify as sedition, the impugned expression must threaten the sovereignty and integrity of India and security of the State.

What is a Seditious law?

- Section 124A of Indian Penal Code (IPC) deals with Seditious law in India.
- It states "Whoever, by words, either spoken or written, or by signs, or by visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards, the Government established by law in India, shall be punished with imprisonment for life, to which a fine may be added; or, with imprisonment which may extend to three years, to which a fine may be added; or, with fine."
- Seditious is a non- bailable offence. Despite being controversial, it is still being used in India.

Relevant Judicial cases related to hate speech

The related judgements by the honourable Supreme Court in this direction are-

- **Brij Bhushan v. State of Delhi (1950)**
 - ▶ Hate speech can be curtailed under article 19(2) on the grounds of public order, incitement to offence and security of the State. SC opined that public order was allied to the public safety and considered equivalent to security of the State. This interpretation was validated by the First Constitution Amendment, when public order was inserted as a ground of restriction under 19(2).
- **Pravasi Bhalai Sangathan v. Union of India (2014)**
 - ▶ The Court observed that the implementation of existing laws would solve the problem of hate speech to a great extent.
 - ▶ Court also expressed the difficulty of 'confining the prohibition to a manageable standard'. The apprehension that laying down a definite standard might lead to curtailment of free speech has prevented the judiciary from defining hate speech in India and elsewhere.
- **Shreya Singhal v. Union of India (2014)**
 - ▶ The court declared section 66 A of the Information Technology Act invalid as it did not establish any proximate relationship between the restriction and the act.

What is Section 66A of the IT act?

It reads: "Any person who sends by any means of a computer resource any information that is grossly offensive or has a menacing character; or any information which he knows to be false, but for the purpose of causing annoyance, inconvenience, danger, obstruction, insult shall be punishable with imprisonment for a term which may extend to three years and with fine."

The recent decisions show that the India follows a speech protective regime and the Courts are extremely cautious in restricting article 19 of the Constitution. The reason behind such a stance is the apprehension and fear of misuse of restrictive statutes by the State.

International Legal Regime on Hate Speech-

The doctrine of free speech fails to address discriminatory, hostile and offending attitudes of some individuals and some small strata of the society. In this light, some steps have been taken-

- Under article 20(2) of the International Covenant on Civil and Political Right, 1966, there is a prohibition of 'advocacy of national, racial or religious hatred that constitutes incitement to discrimination, hostility or violence'
 - Similarly, articles 4 and 6 of the International Convention on the Elimination of All Forms of Racial Discrimination, 1966 (hereinafter ICERD) prohibits 'dissemination of ideas based on racial superiority or hatred, incitement to racial discrimination, as well as all acts of violence or incitement to such acts against any race or group of persons of another color or ethnic origin' and mandates the signatory states to provide effective remedies and protection against such actions.
 - Recognising the greater significance of the issue of hate speech, Human Rights Council in its report expressed that freedom of expression can be restricted on the following grounds, namely:
 - ▶ child pornography (to protect the rights of children),
 - ▶ hate speech (to protect the rights of affected communities) defamation (to protect the rights and reputation of others against unwarranted attacks)
 - ▶ direct and public incitement to commit genocide (to protect the rights of others)
 - ▶ Advocacy of national, racial or religious hatred that constitutes incitement to discrimination, hostility or violence (to protect the rights of others, such as the right to life).
 - The analysis of hate speech in different countries suggests that despite not having a general definition, it has been recognized as an exception to free speech by international institutions and municipal courts
- ▶ expression. The UN supports more speech, not less, as the key means to address hate speech
 - ▶ Tackling hate speech is the responsibility of all – governments, societies, the private sector, starting with individual women and men. All are responsible, all must act.
 - ▶ In the digital age, the UN should support a new generation of digital citizens, empowered to recognize, reject and stand up to hate speech.
- The **regional consultation on "Expression, Opinion and Religious Freedoms in Asia" in Jakarta** (2015) gave the following recommendations-
 - ▶ There is a need to revise and strengthen the existing anti-discrimination legislation so as to meet universal standards on equality across all groups and communities.
 - ▶ Laws should be adopted to punish incitement to hatred that may result in violence, hostility and discrimination. They should not be used to stifle dissent or the legitimate exercise of freedom of expression
 - ▶ Fight against hate speech cannot be isolated. It should be discussed on a wider platform such as the United Nations. Every responsible government, regional bodies and other international and regional actors should respond to this threat.
- In India, following committees gave recommendations in this direction-
 - ▶ **Bezbaruah committee**- It proposed amendment to Section 153C and Section of 509A of IPC
 - ▶ **Viswanathan Committee**- It proposed amendment to Section 153C (b) and Section of 505 A of IPC and recommending punishment of up to two years along with a fine of Rs. 5000.

Addressing Hate speech

There is a need to address 'Hate Speech' to ensure individual rights are protected and collective rights are not hampered. Addressing hate speech requires a coordinated response that tackles the root causes and drivers of hate speech.

- The **United Nations Strategy** in tackling hate speech is guided by the following principles-
 - ▶ The strategy and its implementation to be in line with the right to freedom of opinion and

◎ CONCLUSION

It is necessary to realise that "freedom of "Expression" is the hallmark of a plural and democratic society. While it is important to take steps to restrict "Hate Speech", it should not result in curtailing FOE and authoritarian state control. Thus, a balance should be ensured and a system of checks and balances should be developed.

5G TECHNOLOGY IN INDIA

CONTEXT:

The Fifth Generation or 5G telecom services are set to be rolled out in selected cities in India in 2022.

The cities which are set to get the 5G telecom services in 2022 include Gurugram, Bangalore, Kolkata, Mumbai, Chandigarh, Delhi, Jamnagar, Ahmadabad, Chennai, Hyderabad, Lucknow, Pune, and Gandhinagar.

In countries like the USA and China, 5G has already started rolling out to the masses with South Korea being the first country to launch a large-scale 5G network.

◎ BACKGROUND

- In 2018, India had planned to start 5G services, on par with the global players, as soon as possible, with an aim to capitalize on the better network speeds and strength that the technology promised.
- However, the lack of flow of cash and adequate capital remained hurdles in the way.

Previous generation of mobile network

The previous generations of mobile networks are 1G, 2G, 3G, and 4G.

- **First generation - 1G**
 - ▶ 1980s: 1G delivered analog voice.
- **Second generation - 2G**
 - ▶ Early 1990s: 2G introduced digital voice (e.g. CDMA- Code Division Multiple Access).
- **Third generation - 3G**
 - ▶ Early 2000s: 3G brought mobile data (e.g. CDMA2000).
- **Fourth generation - 4G LTE**
 - ▶ 2010s: 4G LTE ushered in the era of mobile broadband.

◎ ANALYSIS

What is fifth-generation network?

- The fifth-generation is the latest upgrade in the **long-term evolution (LTE)** mobile broadband networks.
- The revolutionary features of 5G are:
 - ▶ ultra-low latency
 - ▶ super bandwidth per unit area

- ▶ reliable connectivity
- ▶ up to 100 percent coverage
- ▶ capacity to connect more devices per unit
- While 4G was a great leap forward, allowing people to stream music and video on the go, 5G is designed to connect many more types of devices than smartphones and offers far higher speed and capacity.
- 5G mainly works in 3 bands, namely low, mid and high frequency spectrum — all of which have their own uses as well as limitations.

How 5G is different from 4G?

- 5G can offer speeds up to 20Gbps but in the commercial world, 5G carriers are expected to support speeds up to 1Gbps which is 10x the speeds offered by the current 4G LTE networks.
- The faster data transmission is also accompanied by lower latency.
- Compared to 4G, which was limited to a ping of 50ms, 5G can theoretically go as low as 1ms! Commercially, one can expect a latency of around 10ms from the 5G carriers.

Recent government initiatives in telecom sector

- **Increased FDI:** Foreign direct investment (FDI) in telecom sector rose around 150 per cent between 2014-21 from Rs 62,386 crore in 2002 to 2014 to Rs 1,55,353 crore during 2014-21.
- **Indigenous 5G Test bed project:** The Indigenous 5G Test bed project is the research project started in 2018 and is set to be completed by December 31, 2021.
 - ▶ Eight agencies - Indian Institute of Technology (IIT) Bombay, IIT Delhi, IIT Hyderabad, IIT Madras, IIT Kanpur, Indian Institute of Science (IISc) Bangalore, Society for Applied Microwave Electronics Engineering & Research (SAMEER) and Centre of Excellence in Wireless Technology (CEWiT) - are involved in the project.
 - ▶ The project has been funded by the **Department of Telecom**.

- ▶ The department has spent Rs224 crore on this project.
- **6G 'Technology Innovation Group':** A 6G 'Technology Innovation Group', or TIG, has been constituted by DoT to co-create and participate in the development of the 6G technology ecosystem through increased participation in a capability description, standards development at global standard-setting bodies.

Data usage:

- India will clock the second-highest global consumption of mobile data per month by 2027 — that'll be 50GB per month on average, up from a monthly average of 12GB in 2021.
- The US will lead the way, just about, with an estimated monthly average consumption of 52GB data.

What are the benefits of 5G?

- **Faster connectivity:** 5G is poised to transform human life by giving faster download speeds and connectivity for billions of devices.
- **Socio-economic multiplier:** 5G will serve as a socio-economic multiplier for the Indian economy.
- **Improving tech system of industries:** In the future, the technology will significantly impact industries such as the focus on safer transportation, banking systems, traffic control, remote healthcare, agriculture, digitized logistics and more.
- **Strengthened healthcare system:** Beyond ultra-fast internet connectivity, 5G will support the Internet of Medical Things, enhanced mobile broadband, and mission-critical services to significantly strengthen healthcare experiences.
- **Support to new-age technologies:** This ecosystem will support new-age technologies like Artificial Intelligence (AI), Augmented Reality (AR), Virtual Reality (VR), and the Internet of Things (IoT).

What are disadvantage of immediate adoption of 5G technology?

- **Immediate Obsolescence:** The transition to the 5G network will require devices that can support it; current 4G devices do not have this capability and will become immediately obsolete.
- **Insufficient Infrastructure:** For the 5G network to function properly will require a whole ambitious investment in infrastructure to increase bandwidth and expand coverage, and this is not cheap.
- **Risks in security and proper data handling:** All of this requires optimal data management, and this is where the most conflictive part of the advantages versus disadvantages lies.

What are the bottlenecks?

- **Obsolete technology:** The fact that unlike in the US and China, where most towers are backhauled using fibre, more than 75% of the towers in India still employ legacy microwave transmission systems.
- **Low fiberisation footprint:** Its rollout will be slower in rural areas due to massive fibre requirements, rendering it uneconomical for relatively low data demand in those areas.
- **Restricted range:** Since 5G works in high-frequency bands (also called millimeter waves), its range is restricted. That necessitates the deployment of dense networks—i.e. more than twice the number of towers needed today.
- **Lack of finance:** There are stressed finances of Telecom sector to contend with.

◎ CONCLUSION

5G is a reality that in a short time will touch our lives like previous technologies, and it would be better to look at it now to take advantage of its benefits and avoid its risks.

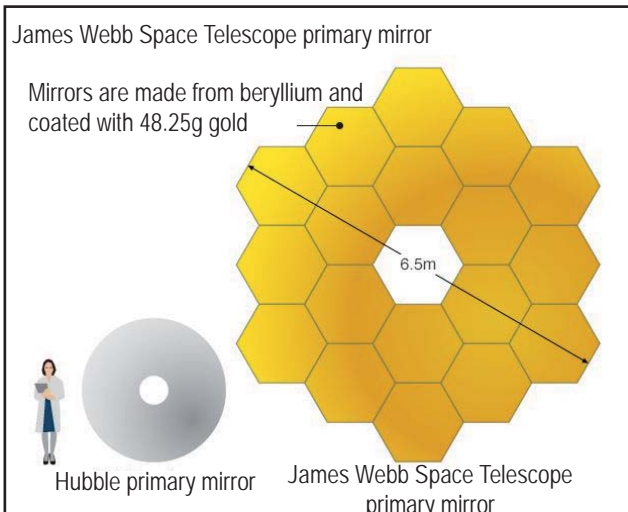
EXPLORING THE UNIVERSE THROUGH JAMES WEBB TELESCOPE

CONTEXT:

James Webb Space Telescope (JWST) has been launched on 25th December 2021, from the French Guiana, on the northeast coast of South America, on the European Ariane 5 rocket.

◎ BACKGROUND

- There has always been curiosity to know about the origin of universe, stars, planets and how they die. This has led to the launch of large telescopes in space to observe light coming from objects, stars or galaxies which began its journey millions of years earlier.
- Hubble space telescope was launched by NASA in 1990 and now, James Webb telescope was launched. However, it is far better than its predecessor Hubble space telescope in the following ways-
 - ▶ It is 100 times more powerful, has more infrared resolution and sensitivity than Hubble space telescope.
 - ▶ It has a mirror surface area which is roughly six times larger than that of the Hubble Space Telescope, and so it has the ability to see some of the earliest objects to form after the big bang.



astronomical instruments capable of addressing many outstanding issues in astronomy.

- It was named after former administrator of NASA James E. Webb. It was launched as an international collaboration between NASA, ESA (European Space Agency) and the Canadian Space Agency. It costs around \$9.7 billion, and is billed as the next-generation space telescope (NGST).
- **Key features of JWST are-**
 - ▶ JWST will operate in an orbit around the Earth-Sun L2 Lagrange point, ~ 1.5 million kilometres away from Earth. This makes its operation, pointing and stability requirements much simpler in comparison with HST
 - ▶ It orbits around the Earth at an altitude of ~570 km above it.
 - ▶ The telescope and the instruments will operate at the extremely low temperature of -233°C, which prevents the instrument's own infrared emission from overwhelming the signals from the astronomical targets

What is L2 point?

- Lagrange Points are areas where gravity from the Sun and Earth balance the orbital motion of a satellite. Putting a spacecraft at any of these points allows it to stay in a fixed position relative to the Earth and Sun with a minimum amount of energy needed for course correction.
- There are five "Lagrange Points" in space.
- L2 is short-hand for the second Lagrange Point.

◎ ANALYSIS

What is James Webb Space Telescope (JWST)?

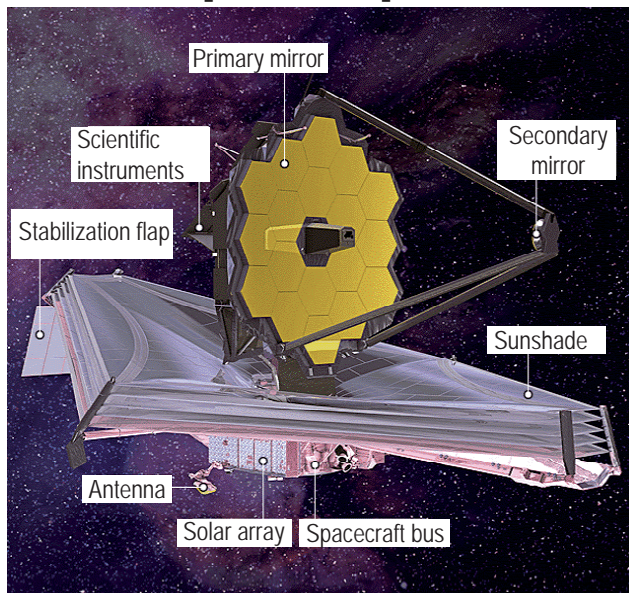
- JWST is a general-purpose observatory with a large aperture telescope optimised for **infrared observations** and a suite of state-of-the-art

James Webb Space Telescope (JWST) Observatory

The JWST observatory includes three main elements-

- the Integrated Science Instrument Module (ISIM)
- the Optical Telescope Element (OTE)
- the Spacecraft Element which comprises the spacecraft bus and the sunshield

James Webb Space Telescope



Potential benefits of the JWST Mission-

The launch of JWST is touted as the next big event in study of space events. It has the potential to explore following thing in universe-

- **Universe's first galaxies-**

- ▶ It is possible to observe different life stages of galaxies and stars by observing light emitted by the galaxies in time space.
- Reveal the birth of stars and planets and how they die
- **Look for exoplanets with the potential for life-**
 - ▶ If life exists outside of Earth, it will release distinct chemical signatures, such as by breathing carbon dioxide and photosynthesizing out oxygen that can transform a planet. Analysing the chemicals in a planet's atmosphere will not only allow scientists to look for life, but also enable them to assess a planet's habitability.
- **Study black holes from a different angle-**
 - ▶ Nothing can escape a black hole, not even light. But there is a plenty of stuff that revolves around stars i.e. stars, dust and entire galaxies. This telescope will allow scientists to see different goings particularly the cooler gases.

Way Forward

Astronomers across the world are waiting for the telescope to reach its planned destination and start its findings. With its 5-10 years long life cycle, it has a lot of potential which needs global cooperation, collaboration and analysis, thus leading to growth of knowledge.

CHINA IS PLANNING TO CREATE ARTIFICIAL SUN WHICH IS HOTTER THAN REAL SUN

CONTEXT:

China has conducted a nuclear fusion experiment towards the advancement of its 'artificial sun'.

According to the scientists, in the span of 10 seconds, the temperature of this artificial Sun can reach are 16 crore degrees Celsius, which makes it ten times hotter than the real Sun. When the experiment was conducted, the temperature remained 16 crore degrees Celsius for around 100 seconds.

◎ BACKGROUND

- China's Experimental Advanced Superconducting Tokamak (EAST) is also known as 'Artificial Sun' experiment. The researches started in 2006 in China with the purpose of replicating the nuclear fusion process, as occurs in the Sun and thus use it for power generation in the long run.
- The EAST project is part of the International Thermonuclear Experimental Reactor (ITER) facility, which aims to become the world's largest nuclear fusion reactor when it becomes operational in 2035.

What is International Thermonuclear Experimental Reactor (ITER) facility?

- It is the world's largest tokamak device which is located in France. It was launched in 1985. ITER is a collaboration of 35 nations including India, China, South Korea, Japan, Russia and the United States.
- Aim-**
 - ITER aims to create energy through fusion reaction and utilise it on a commercial and an industrial scale. Nuclear fusion provides a carbon free source of energy.
 - ITER is scheduled to generate first plasma by 2025. A demonstration reactor will then be built, with the aim of creating 500 megawatts of power from just 50 megawatts of input, a tenfold return on energy.
- Tokamak device-**
 - The term "tokamak" comes to us from a Russian acronym that stands for "toroidal chamber with magnetic coils."
 - The tokamak is an experimental machine designed to harness the energy of fusion. Inside a tokamak, the energy produced through the fusion of atoms is absorbed as heat in the walls of the vessel. Just like a conventional power plant, a fusion power plant will use this heat to produce steam and then electricity by way of turbines and generators.

◎ ANALYSIS

What is China's Experimental Advanced Superconducting Tokamak (EAST) or 'artificial sun'?

- The EAST reactor is an advanced nuclear fusion experimental research device located in China. It is one of the three major domestic tokamaks that are presently being operated across China. The other two reactors are 'HL-2A reactor' as well as 'J-TEXT'
- The EAST project is part of the International Thermonuclear Experimental Reactor (ITER) facility.
- China is responsible for manufacturing 9 percent of ITER's components, and is playing a major role in core technologies like magnetic containment, as well as the production of components that can withstand temperatures of over 100 million degrees Celsius.
- Purpose-** The key purpose of the project is to replicate the process of nuclear fusion, which is the same reaction that powers the sun.

What is nuclear fusion?

- Fusion is the energy source of the Sun and stars. In a fusion reaction, two hydrogen nuclei collide and fuse into heavier helium atoms and release tremendous amounts of energy in the process.
- Three conditions must be fulfilled to achieve fusion in a laboratory
 - Very high temperature (on the order of 150,000,000° Celsius)
 - Sufficient plasma particle density (to increase the likelihood that collisions do occur)
 - Sufficient confinement time (to hold the plasma, which has a propensity to expand, within a defined volume).
- Nuclear fusion can be used to create clean source of energy and also the mechanism to create a nuclear bomb.

Working process of EAST reactor-

- The EAST Tokamak device is designed to replicate the nuclear fusion process carried out by the sun and stars.
- For nuclear fusion to occur, tremendous heat and pressure are applied on hydrogen atoms so that they fuse together. The nuclei of deuterium and tritium — both found in hydrogen — are made to fuse together to create a helium nucleus, a neutron along with a whole lot of energy.
- Fuel is heated to temperatures of over 150 million degrees C so that it forms a hot plasma “soup” of subatomic particles. With the help of a strong magnetic field, the plasma is kept away from the walls of the reactor to ensure it does not cool down and lose its potential to generate large amounts of energy. The plasma is confined for long durations for fusion to take place.

What China has achieved in the current experiment?

- It has achieved a temperature of 16 crore degrees Celsius and sustained the temperature for about 100 seconds. This temperature is more than 10 times as achieved in the Sun.
- The next goal for the Chinese scientists behind the experimental reactor is to maintain the high temperature for a long period of time. China aims to start building fusion reactor in next 5 years and start generating power by around 2040.
- However, China is not the only country that has achieved high plasma temperatures. In 2020, South Korea’s KSTAR reactor set a new record by

maintaining a plasma temperature of over 100 million degrees Celsius for 20 seconds.

Potential benefits of Artificial Sun-

The achievement of high temperature and increasing its stability inside a laboratory is touted as the next big event in development of energy and understanding space phenomenon. It has the following potential benefits-

- **Alternative source of energy-** The energy created through nuclear fusion is cheap, carbon free and sustainable to meet the needs of mankind.
- **Achieving ‘net zero’ emissions-** As fossil fuels are the main source of energy across the world, nuclear fusion promises an alternative source of energy which can help achieve ‘net zero’ emissions.
- **Cheap source of energy-** If the energy produced during nuclear fusion is utilized fully; it will require only tiny amounts of fuel and create virtually no radioactive waste.
- **Understanding mechanism of stars-** As the process of nuclear fusion is also used in the formation and sustenance of stars including Sun, it can help in better understanding of cosmic phenomenon.

Wrapping Up

Scientists are replicating the process of nuclear fusion for the benefit of mankind. The recent achievements in this direction not only provides hope but will also lead to better financing and global cooperation thus leading to growth of knowledge.

INDIA ADVISES AUTO FIRMS TO START MAKING BS VI-COMPLIANT FLEX-FUEL VEHICLES

CONTEXT:

The Union Ministry of Road Transport and Highways issued guidelines for Flex-Fuel Vehicles and Flex-Fuel Strong Hybrid Electric Vehicles.

◎ BACKGROUND

- Bharat Stage (I, II, III, IV & VI) are emission standards set by the governing body Bharat Safety Emission Standard (BSEB) to regulate the output of pollutants from vehicles plying on the road.
- They aim to regulate the output of air pollutants from internal combustion engine and spark-ignition engine equipment, including motor vehicles.
- The central government has mandated that vehicle makers must manufacture, sell and register only BS-VI (BS6) vehicles from April 1, 2020.
- These emission norms are now mandatory for petrol vehicles and unleaded petrol was introduced in the market.

Regulating organizations

- **Bharat Stage Emission Standards (BSES)**, regulates the output of pollutants from vehicles plying in the country.
- The **Central Pollution Control Board (CPCB)** which falls under the Ministry of Environment, Forest and Climate Change sets the standards to regulate emissions from vehicles in India.

◎ ANALYSIS

What are BS6 (BSVI) norms?

- The first emission standard or norm, introduced in the year 2000, was known as 'India 2000' and later, BS2 and BS3 were introduced in 2005 and 2010, respectively.
- While the first three emission norms were introduced at regular intervals, BS4 was introduced in 2017, after a gap of seven years.
- The BS6 emission standard is the sixth iteration of the emission norm.

Fuel Type	Pollutant Gases	BS6 (BSVI)
Petrol Passenger Vehicle	Nitrogen Oxide (NOx) Limit	<60mg>

Petrol Passenger Vehicle	Particulate Matter (PM) Limit	< 4.5 mg / km
Diesel Passenger Vehicle	Nitrogen Oxide (NOx) Limit	<80mg>
Diesel Passenger Vehicle	Particulate Matter (PM) Limit	< 4.5 mg / km
Diesel Passenger Vehicle	HC + NOx	170mg/km

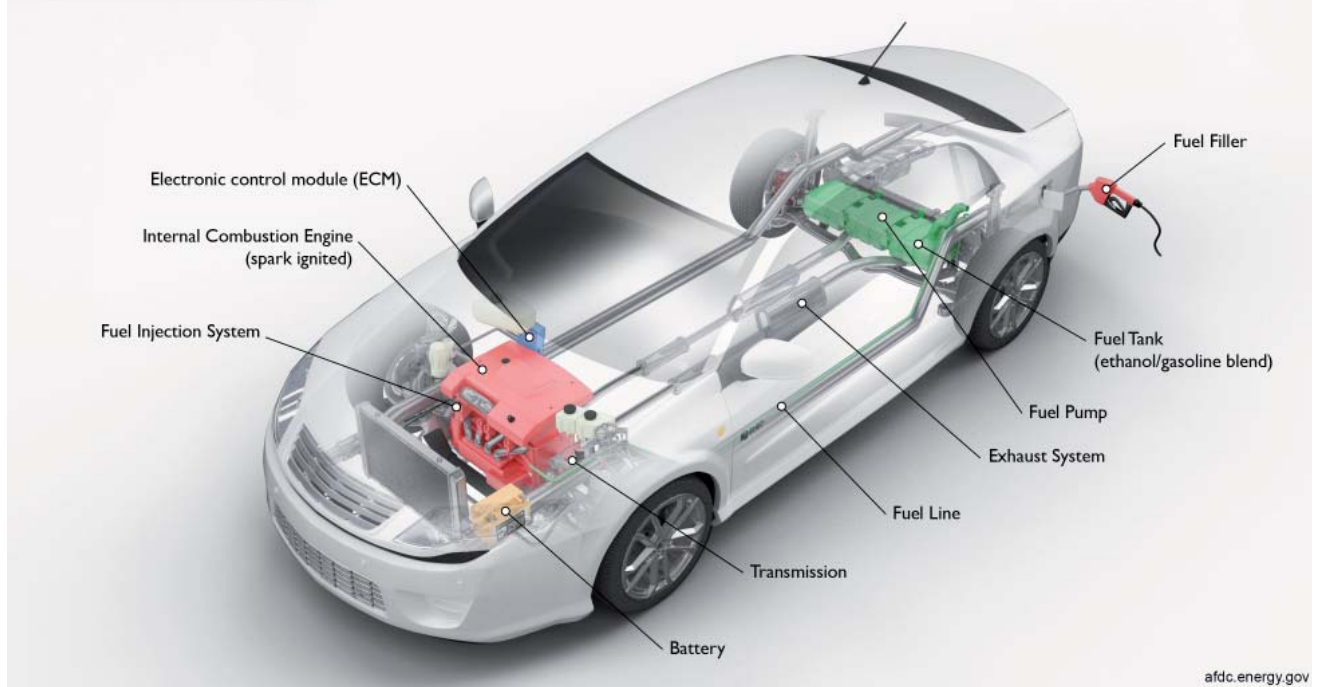
Key-highlights of the guidelines for Flex Fuel Vehicle

- The Automatic Manufacturers in India have been asked to start manufacturing **Flex Fuel Vehicles (FFV) and Flex Fuel Strong Hybrid Electric Vehicles (FFV-SHEVs)**.
- This will help in **substituting India's import of petroleum as a fuel as well as provide direct benefits to farmers**.
- Automobile Manufacturers have been advised to start manufacturing such vehicles in accordance with **BS-6 Norms in a timely manner within six months**.

What are Flexible-fuel vehicle (FFV)?

- FFVs are also called "**dual-fuel vehicles**" or **flex-fuel vehicles**.
- These are an alternative fuel vehicle consisting of **internal combustion engines that run on more than one fuel**.
- They are capable of running on 100 per cent petrol or 100 per cent bio-ethanol or a combination of both.
- The engine is usually **run-on gasoline blended with either ethanol or methanol fuel**.
 - ▶ Both of the fuels are stored in a common tank.
- These vehicles are different from the **bi-fuel vehicles**, wherein two fuels are stored in **separate tanks and the engine runs on one fuel at a time**.

Flexible Fuel Vehicle



The "very first flex fuel vehicle" was Henry Ford's Model T, which was introduced in 1908.

Why is government pushing for FFVs?

- **To cut oil import bills:** The government wants to bring down the oil import bill by creating fuel substitutes like ethanol, hydrogen and electricity. Even a push till the E20 level can result in savings of \$4 billion per annum, as per estimates. This is possible only if flex-fuel vehicles are made available in the market.
 - ▶ Last year (FY21), India's oil import bill stood at \$62.7 billion which was matched in just the first seven months (April-October) of this year.
- **To reduce emissions:** Furthermore, FFVs will also help the government meet its commitments when

it comes to reducing emission. This move will thus **reduce Greenhouse Gas emissions from vehicles drastically** and help India to comply with its **commitment at COP26 to reduce carbon emissions by one billion tonnes by 2030.**

Alternate fuels

- Government is enabling the use of various alternate fuels in an effort to shift from fossil fuels. Alternative fuels include:
 - ▶ gaseous fuels such as hydrogen, natural gas, and propane
 - ▶ alcohols such as ethanol, methanol, and butanol
 - ▶ vegetable and waste-derived oils
 - ▶ electricity

REGULATION OF NORTH-EAST BORDER TO CHECK POTENTIAL GOLDEN TRIANGLE FORMATION

CONTEXT:

Given the porosity along the Northeast (NE) border, drug trafficking is likely to be a huge matter of concern in the coming years.

◎ BACKGROUND

- There has been an increasing trend of drug smuggling and illicit activities carried out at the border, attracting the centre of attention to highlight two important issues.
 - ▶ First is related to the involvement of locals in illicit trade; and youth and their addiction to drugs.
 - ▶ The second issue is related to the implications of illicit trade at borders to India's Act East Policy (AEP).
- Many experts have apprehension about the success of AEP not because of lack of connectivity, but because of close proximity with Myanmar with a porous border.

Golden Triangle

- The Golden Triangle is an area formed roughly by the upland frontier areas of Thailand, Laos, Myanmar, and China.
- This area covers approximately 950,000 square kilometres (367,000 sq mi) of mountainous areas of the three adjacent countries.
- Today, the Golden Triangle is once again flooding regional and global markets with opium, methamphetamines, and other drugs.
- Nearly 95% of the total opium produced in the Golden Triangle region is produced in Myanmar.

- In this vein, this brief aims to examine the illegal trade and drug trafficking at the border and how is it an internal security challenge for India.

◎ ANALYSIS

What substances are consumed by masses?

- In India, alcohol is the most commonly consumed psychoactive substance by the masses.
- Next to alcohol is-
 - ▶ **Cannabis:** legal form: *bhang* and illegal form: *ganja and charas*. It is used widely in states like Uttar Pradesh, Punjab, Sikkim, Chhattisgarh and Delhi

- ▶ **Opioids:** opium, Heroin and other pharmaceutical Opioids: It is used in Sikkim, Arunachal Pradesh, Nagaland, Manipur and Mizoram.
- Heroin is the most used Opioids nationwide and people in the NE region mostly use the Opioid at a large scale.

What is the region a troubled hotspot for drug-trafficking?

- **Unregulated border:** Among the seven Northeastern states plus Sikkim, states like Arunachal Pradesh, Manipur, Mizoram and Nagaland share an international border with Myanmar.
 - ▶ Since, there is no strict fencing across the Indo-Myanmar Border (IMB), cross border crimes are frequent in these states.
 - ▶ Narcotic drugs from Myanmar enters India through Mizoram, Nagaland and Manipur and is then en-routed to Assam and distributed to different drug lords in other parts of the country.
- **Free flow of items:** The unregulated border has resulted in the free flow of many items through illegal trade including drugs, illegal immigration, tax evasion and supply of contraband.
- **Free movement:** Additionally, the Free Movement Regime (FMR) between India and Myanmar has again facilitated such activities across the border.
 - ▶ According to FMR, people who are living on both sides of the border are allowed to move freely within 16 km from the border without any restrictions including visa.
 - ▶ Furthermore, insurgents, criminal gangs and drug lords to carry out illegal trade including Chinese products and smuggling of drugs often misuse FMR.
- **Illegal cultivation:** In addition, drug mafias from parts of India use remote places such as NE region for opium cultivation.

Major drugs

- Some of the common drugs smuggled from Myanmar and imported to the northeast are opium, heroin, and methamphetamine and so on.
- These drugs are coming from Bhamo, Lashio and Mandalay from Myanmar and entering through Moreh in Manipur and Champhai in Mizoram.

Why more and more people are getting engaged in the drug nucleus?

Population residing at the border area is vulnerable and neglected and thus gets involved in illicit trade and illegal activities. The following are a few reasons:

- **Poverty:** They are economically poor and they do not have other sources.
- **Lack of opportunities:** They do not have job opportunities in the region due to lack of education and other unavailable options.
- **Easy manipulation:** Criminals and drug lords acknowledge the poor socio-economic condition of the people and hence, they manipulate the minds of people to join such illegal activities to extract easy money out of this.

How drug trafficking pose a threat to security?

- There is no doubt the region is becoming a nucleus of drug trafficking and thus pose a serious threat to India's internal security.
- Drug trafficking intersects with a vast array of security issues ranging from war and terrorism to human trafficking, drug trafficking and national stability.
- **Terrorism:** The threat of radicalization and recruitment of youth by terrorist groups is serious corollary of drug-trafficking.
- **Threatened national security:** Cyber security is increasingly becoming a global challenge with terrorists and drug traffickers utilizing new methods of communication and operations, thereby threatening national security.
- **Multifarious security issues:** Drug-trafficking brings along with it multifarious security issues and challenges, notably an intricate network of actors across various levels of handling narcotics management, which in most instances extend to foreign jurisdictions.
- **Laundering of drug money:** Emergence of new criminal avenues to launder drug-money such as crypto currency and money transfer systems.

- **Political chaos:** Politicization of the fight against drug-trafficking by leaders from across the political divide creates insurmountable legal and political problems.
- **Increased crime and violence:** The lucrative trade in methamphetamine, cocaine, and ecstasy will result in crime and violence perpetrated by users and armed gangs, including petty crime, violence against women and children, and "drug money-fuelled" violence.
- The security threats caused by drug trafficking can impact all levels of society, and at all levels of government right down to the family.

Government measures against drug trafficking

- **NDPS Act:** The Narcotic Drugs and Psychotropic Substances Act (NDPS Act) came into force in 1985. Under the Act, it is illegal for any person to produce/ manufacture/cultivate, possess, sell, purchase, transport, store, and/or consume any narcotic drug or psychotropic substance.
 - ▶ The Act has been amended three times – in 1988, 2001, and 2014.
 - ▶ The Act extends to the whole of India and it also applies to all Indian citizens outside India and to all persons on ships and aircraft registered in India.
- **Narcotics Control Bureau (NCB):** The Narcotics Control Bureau (NCB) was created in 1986 to enable the full implementation of the NDPS Act.
 - ▶ The NCB is the chief law enforcement and intelligence agency of India responsible for fighting drug trafficking and the abuse of illegal substances.
- **E-portal, SIMS:** For digitization of pan-India drug seizure data, the MHA has launched an e-portal called 'SIMS' (Seizure Information Management System) in 2019 for all the drug law enforcement agencies under the mandate of NDPS Act.
- **Nasha Mukh Bharat Abhiyan:** The Centre launched the 'Nasha Mukh Bharat Abhiyan' under the aegis of the Ministry of Social Justice and Empowerment.
- **Coordination with international organization:** The Narcotics Control Bureau (NCB) coordinated with various international organizations for sharing information and intelligence to combat transnational drug trafficking. They included the
 - ▶ SAARC Drug Offences Monitoring Desk
 - ▶ Brazil, Russia, India, China and South Africa (BRICS)
 - ▶ Colombo Plan

- ▶ Association of Southeast Asian Nations (ASEAN)
- ▶ ASEAN Senior Officials on Drug Matters (ASOD)
- ▶ Bay of Bengal Initiative For Multi-Sectoral Technical and Economic Co-Operation (BIMSTEC)
- ▶ United Nations Office on Drugs and Crime (UNODC)
- ▶ International Narcotics Control Board (INCB)

What corrective measures can be adopted?

- **Detection and prevention:** Safety and security against violent extremism tool that will help detect and prevent radicalization of youth.
- **National strategy:** Develop a national strategy to counter violent extremism.
- **Improved media:** Improve media sensitization on terrorism and drug-trafficking reporting.
- **Enhanced coverage:** Enhanced security coverage of critical infrastructures is required. Private security agencies, especially those run by ex-servicemen, have a great role to perform in this domain.
- **Robust law for money laundering:** Formulate a more robust anti-money laundering law and combating the financing of terrorism framework. Engaging the local political, religious and opinion leaders within vulnerable communities, as a proactive strategy to deny terrorism entry points into the radicalization of our youth,
- **Focusing on bilateral relations:** Enhancing bilateral and multilateral collaboration in counter terrorism efforts.

HOW PANDEMIC AFFECTED OUR ETHICS

CONTEXT:

Over the past two years, our lives have changed in unprecedented ways. In the face of the pandemic, we have been required to obey demanding new rules and accept new risks, making enormous changes to our daily lives.

These disruptions can challenge us to think differently about ethics – about what we owe each other.

◎ BACKGROUND

- As we head into the third year of the pandemic, debates continue to rage over the ethics of vaccine mandates, restrictions on civil liberties, the limits of government power and the inequitable distribution of vaccines globally.
- This continuous evolving situation poses some serious questions, such as:
 - ▶ With so much disagreement over questions like these, has the pandemic fundamentally changed the way we think about ethics?
 - ▶ Has our ethics changed due to rising debates about vaccine inequality, restrictions of civil liberties?
- This brief aims to delve into the above mentioned issues and find a solution

◎ ANALYSIS

Why ethics is becoming more 'visible' nowadays?

- In daily life, ethical decision-making often is not front of mind. We can often just coast along. But the pandemic changed all that.
- Because the rules were being rewritten, we had to work out where we stood on all manner of questions:
 - ▶ Is it OK – or even obligatory – to “dob” on rule-breakers?
 - ▶ Is it morally wrong to ignore social distancing rules or refuse a newly developed vaccine?
 - ▶ How far can our freedoms be rightly restricted in the name of the public interest and the greater good?
- Ultimately, the pandemic made ethical thinking and discussion more common than ever — a change that might well outlast the virus itself.

How pandemic highlighted the question of 'trust'?

- Trust has always been morally important. However, the pandemic moved questions of trust to the very center of everyday decision-making.

- We all had to make judgments about the government, scientists, news and journalists, “big pharma”, and social media. The stance we take on the trustworthiness of people we've never met turns out to be pivotal to the rules we will accept.
- One good thing about trustworthiness is that it's testable. Over time, evidence may confirm or refute the hypothesis that, say, the government is trustworthy about vaccine health advice but untrustworthy about cyber privacy protections in contract tracing apps.
- Perhaps more importantly, one common concern throughout the pandemic was the unprecedented speed with which the vaccines were developed and approved.
- As the evidence for their safety and effectiveness continues to mount, quickly developed vaccines may be more readily trusted when the next health emergency strikes.

How fair decision-making is hard during crisis?

- The development of inclusive, informed, nuanced and fair rules is hard when swift responses are needed.
- It's even more challenging when our understanding of the situation – and the situation itself – changes rapidly.
- This doesn't excuse shoddy political decision-making.
- But it does mean leaders can be forced to make hard decisions where there are no ethically sound alternatives on offer. When they do, the rest of us must cope with living in a deeply imperfect moral world.
- All of this raises important questions for the future.
 - ▶ Will we have become so inured to executive rule that governments feel confident in restricting our liberties and resist relinquishing their power?
 - ▶ On a different front, given the enormous costs and disruptions governments have imposed on the public to combat the pandemic, is there

now a clearer moral obligation to marshal similar resources to combat slow-motion catastrophes like climate change?

What is expected from Ethics?

- Expectations, in the form of predictions about the future, are rarely at the forefront of our ethical thinking.
- Yet as the 18th century philosopher Jeremy Bentham argued, disruption is inherently ethically challenging because people build their lives around their expectations.
- When those expectations are violated, we can experience not only material losses, but losses to our autonomy and “self-efficacy” — or our perceived ability to navigate the world.
- This plays out in several ways in the context of vaccine mandates.
 - ▶ For example, it’s not a crime to have strange beliefs and odd values, so long as you still follow the relevant rules. But this creates problems when a new type of regulation is imposed on an occupation.

- ▶ A person with strong anti-vaccination beliefs (or even just vaccine hesitancy) arguably should never become a nurse or doctor. But they may well expect their views to be a non-issue if they are a footballer or a construction worker.

- While there are powerful ethical reasons supporting vaccine mandates, the shattering of people’s life expectations nevertheless carries profound costs. Some people may be removed from careers they built their lives around. Others may have lost the sense their future is able to be predicted, and their lives are in their control.

Concluding thoughts

- It’s possible current social shifts will “snap back” once the threat recedes. Emergency situations, like pandemics and war, can have their own logic, driven by high stakes and the sacrifices necessary to confront them.
- Equally though, learned lessons and ingrained habits of thought can persist beyond the crucibles that forged them. Only time will tell which changes will endure — and whether those changes make our society better or worse.

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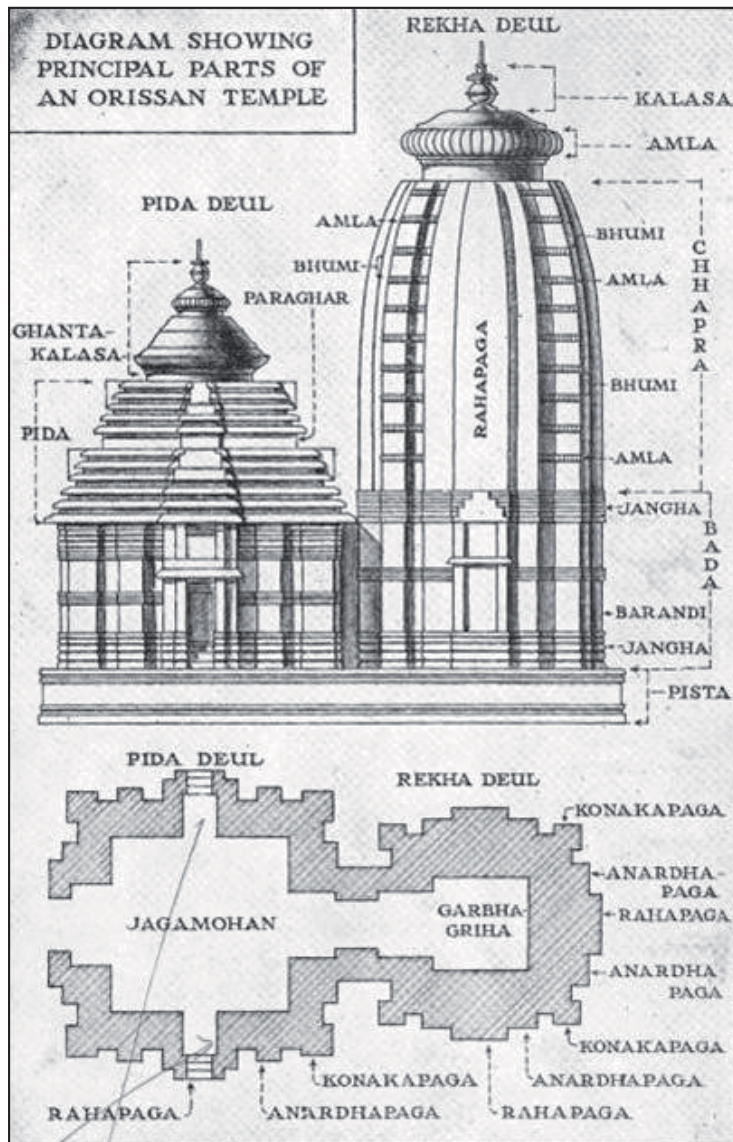
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ASI TO REMOVE SAND FROM INTERIOR OF KONARK SUN TEMPLE

- © **CONTEXT:** Archaeological Survey of India is working on a preliminary roadmap to safely remove sand from the interiors of Odisha's Sun Temple's sealed assembly hall (Jagamohan)
- ASI, the custodian of the world heritage site, will be assisted by IIT Madras in the process.



■ Facts about Konark Temple

- The name Konark is made of two Sanskrit words: Kona, meaning corner, and arka, meaning sun.
- Built by King Narasimhadeva I of the Eastern Ganga dynasty from 1238-1250 CE, the 13th century late-style Kalingan temple forms part of the golden triangle of Odisha, along with Puri and Bhubaneswar.
- Konark was chosen as its place of construction because it has been described as the holy seat of Surya in various ancient texts.

- Its architecture has all the defining elements of the Kalinga architecture – it includes
 - Shikhara (crown)
 - Jagmohana (audience hall)
 - Natmandir (dance hall)
 - Vimana (tower)

Kalinga architectural style

- The Kalinga architectural style is a style of Hindu architecture which flourished in the ancient Kalinga previously known as Utkal and in present eastern Indian state of Odisha.
- The style consists of three distinct types of temples:
 - ▶ Rekha Deula
 - ▶ Pidha Deula
 - ▶ Khakhara Deula
- The former two are associated with Vishnu, Surya and Shiva temples while the third is mainly with Chamunda and Durga temples.
- The Rekha Deula and Khakhara Deula houses are the sanctum sanctorum while the Pidha Deula constitutes outer dancing and offering halls.

The need

- The sand was filled up by the British 118 years ago to prevent it from collapsing.
- The need to remove the sand was felt after a study warned of possible damage caused by the sand settling down — resulting in a gap of 17 feet between the sand layer and the structure.
- This report was submitted in 2019 and suggested two solution:
 - To refill the 17-foot gap with fresh sand.
 - To remove all the sand and properly restoring the structure

Important festivals in the State

Jagannath Temple in Puri





Jagannath Temple in Puri is one of the Char Dham pilgrimage spots for Hindu devotees of India.

Lord Jagannath temple is located in Puri that is a coastal town of Odisha

Ram Mandir, Bhubaneswar



Ram Mandir is a temple complex in the heart of Bhubaneswar city in Odisha.

<p>Lingaraj Temple, Bhubaneswar</p> 	<p>Lingaraj Temple is one of the oldest temples in the state of Odisha. It is a Hindu temple that is dedicated to Lord Harihara or an incarnation of Lord Shiva.</p>
<p>Mukteshwar Temple, Bhubaneswar</p> 	<p>Mukteshwar temple is a Hindu temple that was built in the 10th century</p>
<p>Maa Tarini Temple, Ghatagaon, Keonjhar</p> 	<p>Maa Tarini temple in Ghatagaon, Keonjhar, Odisha is one of the Shakti and Tantra Peethas or shrines in the state.</p>

RARE BLACK ROCK ART DEPICTIONS FOUND IN ANDHRA PRADESH

◎ **CONTEXT:**

In a recent finding, rare black stick-like drawings of human beings have been discovered in two caves at Paibogula village in Kurnool district close to the Kundu River in Andhra Pradesh.




Key-highlights of the Finding

- These drawings are supposed to be dating back to the Megalithic Period (1500 to 500 BC) and early Historical period (500 BC to 600 AD).
- These newly explored rock art sites in the Kundu river valley in Gadivemula Mandal are 40 km from Kurnool city.
- These caves are locally known as Yedoorlagayi; Siddhulagayi, and Gurralapadah.
- These sites have rock art in black, red, and white pigments, along with cupules or cup marks of varying sizes, which need to be studied further for the exact dating, he added.
- These cupules were made on gneissic granite, a very hard and erosion-resistant rock type.
- The largest of these measures 10 cm in diameter and 5 cm in depth.

What is Rock Art?

- These rock art, drawing, painting, or similar work on or of stone, usually belonged from the ancient or prehistoric era.
- Rock art includes pictographs (drawings or paintings), petroglyphs (carvings or inscriptions), engravings (incised motifs), petroforms (rocks laid out in patterns), and geoglyphs (ground drawings).
- The ancient animals, tools, and human activities depicted often help shed light on daily life in the distant past, though the images are frequently symbolic rather than representative.

Painting	Detail
<p>Madhubani painting (Mithila painting)</p> 	<p>Originated in the Madhubani village of Bihar, this painting is done on walls, floors of holy places, canvases, etc.</p> <p>These brightly colored Madhubani paintings are characterized by their geometrical patterns and are widely practiced in the Madhubani district in Bihar.</p>
<p>Warli Paintings</p> 	<p>This form of tribal art belongs to one of the major tribes, the Warlis, in Maharashtra.</p> <p>It mostly depicts the daily activities of the local people such as farming, dancing, praying, hunting, sowing, etc., and the elements of nature.</p>
<p>Kalamkari Painting</p> 	<p>The Kalamkari art form is practiced in Andhra Pradesh and some villages in Tamil Nadu.</p> <p>Kalamkari usually depicts scenes from epics like Ramayana and Mahabharata, musical instruments, animals, Buddha and Buddhist art, flowers, and Hindu symbols like swastika.</p> <p>Kalamkari is an organic hand-printing or block-printing Indian folk art form.</p> <p>The painting is done using a Kalam or a bamboo reed on fabric and natural and earthy colors and vegetable dyes are used like indigo, green, rust, black, and mustard.</p>
<p>Gond Painting</p> 	<p>This art form is Indian folk and tribal art. They are practiced by the people of the Gond community in Madhya Pradesh</p>

<p>Tanjore Painting (Thanjavur painting)</p> 	<p>It is an ancient Indian folk art form that originated in the town of Thanjavur in South India.</p>
<p>Rajput Painting (Rajasthani paintings)</p> 	<p>The Rajput paintings originated and flourished in the Rajputana royal courts in the state of Rajasthan around the 17th and 18th centuries.</p> <p>The main illustrations are the Hindu epics, Mahabharata and Ramayana, and scenes from Hindu mythology.</p>
<p>Mysore Painting</p> 	<p>The Mysore painting has evolved in the Mysore city of Karnataka and employs thin gold leaves.</p>

WORLD SANGEET TANSEN FESTIVAL ORGANIZED IN MADHYA PRADESH

© **CONTEXT:**

The 97th edition of the **World Sangeet Tansen festival** started off in Gwalior on 25th December 2021.

About Tansen

- Mian Tansen (born 1493 or 1506 as Ramtanu Misra – died 1586 or 1589 as Tansen) was a prominent Indian classical music composer, musician and vocalist.



- He is known for a large number of compositions, and also an instrumentalist who popularised and improved the plucked rabab (of Central Asian origin).
- He was among the Navaratnas (nine jewels) at the court of the Mughal Emperor Jalal ud-din Akbar.
- Akbar gave him the title Mian, an honorific, meaning learned man.

The Tansen ceremony

- Every year in December, an annual festival, the Tansen Samaroh, is held in Gwalior to celebrate Tansen.
- The **Tansen ceremony was started in the year 1924** during **Scindia's reign itself**.
 - This is the **97th Tansen ceremony**.

Key-highlights of 97th ceremony

- The stage of the program has been constructed on the **theme of the Siddhanath temple** situated in **Omkareshwar**.
- **Many artists not only from India but also from abroad participate** in the music festival.
- **The first seven concerts** were held at the stage prepared at the **mausoleum of Tansen and the tomb of Mohammad Ghaus**.
 - **The eighth concert** will be held on the banks of the **Jhilmil river, in Behat (Birthplace of Tansen) on December 30**.
 - **The last brief concert** will be held at **Gwalior Fort on the same day**.

CHINA INVENTING NAMES FOR PLACES IN ARUNACHAL PRADESH

◎ CONTEXT:

China's Ministry of Civil Affairs announced that it had "standardised" the names of 15 places in Arunachal Pradesh, acting in accordance with regulations on geographical names issued by the State Council, the equivalent of the Chinese Cabinet.

- Among the 15 locations renamed by China are eight residential areas, four mountains, two rivers and a mountain pass.

China's claims on Indian Territory

- China claims some 90,000 sq km of Arunachal Pradesh as its territory.
- It calls the area "Zangnan" in the Chinese language and makes repeated references to "South Tibet".
- Chinese maps show Arunachal Pradesh as part of China, and sometimes parenthetically refer to it as "so-called Arunachal Pradesh".

Border Dispute

- China shares its 22,457 km land boundary with 14 countries including India, the third longest after the borders with Mongolia and Russia.
- India claims that China is illegally occupying about 38,000 sq km of India's territory in Aksai Chin, which borders eastern Ladakh.

- Pakistan ceded to China about 5,180 sq km in 1963 from the Indian territory illegally occupied by it.
- The India-China border is divided into three sectors
 - ▶ **Western:** The boundary dispute in the Western Sector pertains to the Johnson Line proposed by the British in the 1860s that extended up to the Kunlun Mountains and put Aksai Chin in the then princely state of Jammu and Kashmir.
 - ▶ **Middle:** In the Middle Sector, the dispute is a minor one. It is the only one where India and China have exchanged maps on which they broadly agree.
 - ▶ **Eastern:** The disputed boundary in the Eastern Sector of the India-China border is over the MacMahon Line.

ISRAEL APPROVES MAMMOTH GOLAN HEIGHTS PLAN

◎ **CONTEXT:** The Israeli government approved a one-billion-shekel (\$317 million) plan for the development of the Golan Heights, in a bid to double the population of the territory occupied by Israel in the 1967 Six-Day War.

◎ **ABOUT:**



- The Golan Heights, a rocky plateau in south-western Syria, has a political and strategic significance which belies its size.
- The heights give Israel an excellent vantage point for monitoring Syrian movements. The topography provides a natural buffer against any military thrust from Syria.
- The area is also a key source of water for an arid region. Rainwater from the Golan's catchment feeds into the Jordan River.
- The land is fertile, and the volcanic soil is used to cultivate vineyards and orchards and raise cattle. The Golan is also home to Israel's only ski resort.

Key-highlights of the Plan

- The plan aims to build 7,300 settler homes in the region over a five-year period.
- It calls for 1 billion Israeli shekels to be spent on housing, infrastructure and other projects with the goal of attracting roughly 23,000 new Jewish settlers to the area, seized during the 1967 Six Day War.

1967 Mideast War

- Israel occupied the Golan Heights in the 1967 Mideast war and later annexed the territory, promoting settlement and agriculture there as well as creating a thriving local tourism industry.
- The US was the first country to recognise Israel's sovereignty over the Golan, which the rest of the international community regards as Israeli-occupied.

REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP (RCEP) COMES INTO EFFECT

◎ **CONTEXT:** The Regional Comprehensive Economic Partnership (RCEP) agreement, the world's largest free trade agreement, entered into force on January 1, 2022.

◎ **ABOUT:**



■ What is RCEP?

- **RCEP** is a free trade agreement between **Asia-Pacific nations of Australia, Brunei, China, Cambodia, Japan, Indonesia, Laos, South Korea, Malaysia, New Zealand, Myanmar, Singapore, Thailand, the Philippines, and Vietnam.**
 - ▶ India and the United States are not members of RCEP.
- **The 15-member grouping accounts for 30% of the world's population and 30% of global GDP (2.2 billion people).** Thus, it is the largest trade bloc in history.
 - ▶ By comparison, the United States-Mexico-Canada trade agreement (USMCA) covers 28% of world trade, while the European Union's Single Market is a distant third at nearly 18%.

Background

- Negotiations on the RCEP deal started in 2012.
- India was also part of the negotiations. However, India pulled out in 2019 because of concerns over lower tariffs.
- Before India, RCEP excluded the USA, which had withdrawn from the Trans-Pacific Partnership (TPP) in 2017.

Why did India opt out?

India was a member of the RCEP drafting committee from its inception in 2011, but in November 2019, it decided to opt out.

- **Concerns regarding China:** India did not join RCEP raising a concern that this deal would open it up to Chinese goods.
- **Safeguarding domestic interest:** Its decision was to safeguard the interests of industries like agriculture and dairy and to give an advantage to the country's services sector.

CHAKMAS AND HAJONGS TO NOT COOPERATE IN CENSUS

◎ CONTEXT:

The **Committee for Citizenship Rights of Chakmas and Hajongs of Arunachal Pradesh (CCRCHAP)** has stated that **Chakmas** and **Hajongs** will not cooperate with any census being taken on them.

◎ ABOUT:

Who are Chakmas and Hajongs?

- They are ethnic people who are found in northeast India, West Bengal, Bangladesh, and Myanmar.
- Chakmas are predominantly Buddhists, while Hajongs are Hindus.
- The Chakmas and Hajongs were originally residents of the Chittagong Hill Tracts of the former East Pakistan.
- The Chakmas and Hajongs were displaced by the construction of the Kaptai Dam in the Chittagong Hill Tracts in Bangladesh in 1957.
- Buddhists by faith, the Chakmas faced religious persecution in East Pakistan along with the Hajongs, who are Hindus.
- In the 1960s, the Indian state settled them legally in the territory now known as Arunachal Pradesh

- The groups entered India through what was then the Lushai Hills district of Assam (today's Mizoram).

Key-points made by the communitys

- No Chakma and Hajong shall cooperate with any illegal census.
- About 95% of the Chakmas and Hajongs are citizens of India by birth and they cannot be discriminated against in any manner.
- Any census on them must meet the litmus test of complying with **Article 14** and **Article 21** of the Constitution of India and the **1996 Supreme Court judgement** in the case of **National Human Rights Commission of India Vs State of Arunachal Pradesh & Anr.**
 - In its order SC stated, unequivocally stated that if the application of any individual Chakma migrant of 1964-1969 is pending consideration, the state of Arunachal Pradesh shall not evict or remove the concerned person from his occupation on the ground that he is not a citizen of India until the competent authority has taken a decision in that behalf.

ELECTORAL BONDS SALE OPENS ON JAN 1

◎ **CONTEXT:**

The government approved the issuance of the 19th tranche of electoral bonds, which will be open for sale from January 1 to 10.

What is electoral bond?

- An electoral bond is like a **promissory note** that can be bought by any Indian citizen or company incorporated in India from select branches of State Bank of India.
 - SBI is the only authorised bank to issue such bonds.

Promissory note

A promissory note is a written promise that one party will pay the other party by a specified time.

- These are issued in multiple values of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh and Rs 1 crore.
- The citizen or corporate can then donate the same to any eligible political party of his/her choice.
- The bonds are similar to bank notes that are payable to the bearer on demand and are free of interest. An individual or party will be allowed to purchase these bonds digitally or through cheque.
- According to provisions of the scheme, electoral bonds can be purchased by a person who is a citizen of India or entities incorporated or established in India.

Who is eligible to received electoral bonds?

- Registered political parties that have secured not less than 1 per cent of the votes polled in the last election of Lok Sabha or legislative assembly are eligible to receive electoral bonds.

The registration of all political parties is governed by the provisions of **Section 29A** of the **Representation of the People Act, 1951**.

What about validity?

- An electoral bond will be valid for 15 days from the date of issue. No payment would be made to any payee political party if the bond is deposited after the expiry of the validity period, as per the statement.
- The bond deposited by any eligible political party into its account would be credited on the same day.

The process

- **Issuing of bonds:** The electoral accounts are issued by the State Bank of India (SBI).
- **Allotment of account by ECI:** Political parties are allotted a verified account by the **Election Commission** and all the electoral bond transactions are done through this account only.
- **Buying and transferring:** The donors can buy these electoral bonds and transfer them into the accounts of the political parties as a donation.
 - ▶ Every donor has to provide his/her KYC detail to the banks to purchase the electoral bonds. The names of the donors are kept confidential.
- **Encashing:** The bonds remain valid for 15 days and can be encashed by an eligible political party only through a bank account with the authorised bank within that period only.

Background

- The electoral bonds were introduced with the Finance Bill (2017).
- In January 2018 the government notified the **Electoral Bond Scheme 2018**.
- The sale of the first batch of electoral bonds took place from March 1-10, 2018.
- The 18th tranche of the bond sale took place from September 1 to September 10, 2021.

The upcoming Assembly Election

- Assembly elections for 5 states — Uttar Pradesh, Uttarakhand, Punjab, Himachal Pradesh and Goa — are expected to be announced next month.

“SOYA MEAL” DECLARED AS AN ESSENTIAL COMMODITY

◎ **CONTEXT:**

The Ministry of Consumer Affairs, Food and Public Distribution has declared 'Soya Meal' as an Essential Commodities up to June 30, 2022, by amending the Schedule of the Essential Commodities Act, 1955.

- The Ministry has published the **Essential Commodities Order, 2021** to regulate the production, stocking and distribution of Soya Meal.

Recently, the Securities Exchange Board of India (SEBI) had banned futures and options trading for various agricultural commodities that also included soya bean, for a period of one year in an apparent move to curb inflation.

◎ ABOUT:

What is Essential Commodities Act?

- The Essential Commodities Act 1955 enabled the state governments to impose stock limits and restrict movement of essential commodities.
- The 2020 Amendment removes restrictions on stocking of certain essential commodities.
- It provides that the central government can regulate the supply of food stuff only under extraordinary circumstances such as war, famine, exceptional price rise and grave natural calamities.
- It further specifies that stock limit can only be imposed if there is 50 per cent rise in retail price of non-perishable agricultural foodstuff over the price prevailing in the preceding 12 months or average retail price of last five years, whichever is lower.

What is 'essential commodity'?

- There is no specific definition of essential commodities in The EC Act.
- Section 2(A) of the act states that an "essential commodity" means a commodity specified in the "Schedule" of this Act.

Facts about Soybean meal

- Soybean meal is the most important protein source used to feed farm animals.
- It represents two-thirds of the total world output of protein feedstuffs, including all other major oil meals and fish meal.
- Soybeans are called as "*vegetarian meat without bones*", as they contain high amount of protein, similar to the protein in meat, egg and dairy products.
- And soybean plant is one of those few plants which provide essential amino acids that are responsible for formation of protein.
- Soybeans are good source of vitamins and minerals including molybdenum, folate, copper, phosphorus, manganese and vitamin K.
- Soybeans create some of their own fertilizers; they have ability to take nitrogen from the air. Microorganisms present on soybean roots can convert that nitrogen taken from air into the usable form of plant.

Significance of the move

- The decision would empower the Union government and all states/UTs to regulate production, distribution etc. of soya meal and to smoothen the sale and availability of this item in the market.
- It will stop unfair market practises and enhance the availability for consumers like poultry farms and cattle feed manufacturers.

CHINA LAUNCHES ZIYUAN-1 02E SATELLITE

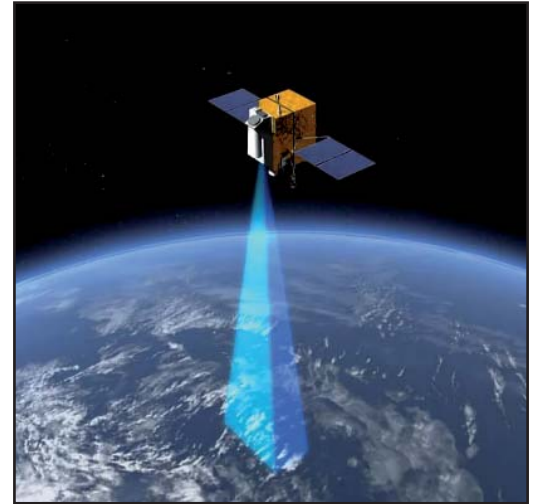
◎ CONTEXT:

Recently, China has launched a new satellite with a **camera capable of taking photos of the ground with a resolution of five meters** called "**Ziyuan-1 02E**" or "**Five Meter 02 Optical Satellite**".

- This is the **39th launch of the Longue Marche-4C rocket and the 403rd launch of the entire Long March series.**

About the satellite

- The Ziyuan-1 02E carries the same two imaging payloads:
 - a high-resolution visible and near-infrared camera
 - a hyperspectral imager, as well as a new long-wave infrared camera
- The high-resolution camera will be able to produce images with resolutions of up to five meters (5m) when operating in panchromatic mode.
- The satellite is also part of a **China-Africa cooperation project called "Xiwang" (Hope)** to popularize science among teenagers.
- The satellite will work with the **five-meter optical satellite 01** and **will reduce the revisiting time of Chinese territory from three days to two days.**



Ziyuan (ZN) Series

- Ziyuan (meaning Resource), is a series of remote-sensing satellites which China uses to acquire high-resolution images that can be used for surveying Earth resources, disaster management, and ecological and land use monitoring.
- The first Ziyuan satellite, Ziyuan-1 01, was launched in 1999 in a partnership between China and the Brazil.
- Six of the nine Ziyuan satellites launched to date have been part of the **China-Brazil Earth Resources Satellite (CBERS)** program, with the other three – including Ziyuan-1 02E – being solely Chinese-operated.

Significance of the satellite

- **Better understanding of geological environment:** Images taken by the satellite duo will help engineers study China's geological environment and search for minerals.
- **Helpful for other fields:** People working in other fields such as transport, agriculture and disaster mitigation will also receive help through the images.

TOP 100
ALL INDIA RANKING
CSE 2020

8	9	12	13	14	16	17	19	20		
24	26	28	30	31	36	38	41	45	50	
51	52	55	56	58	59	67	68	70	71	73
74	76	78	83	84	85	86	89	93	98	100

SUCCESS IS A PRACTICE WE DO!

TOP 100
ALL INDIA RANKING
CSE 2019

3	6	10	11	16	17	21	22	28			
30	33	38	39	42	44	46	53	54	59	66	69
70	72	77	78	80	82	84	86	87	94	97	98

TOP 100
ALL INDIA RANKING
CSE 2018

2	3	5	7	27	36	37	40	44	49		
51	52	56	58	62	74	81	89	92	94	98	100

TOP 100
ALL INDIA RANKING
CSE 2017

3	10	19	31	33	35	40	41	44	45	48		
54	57	63	64	68	71	75	77	80	83	93	97	100