

CURRENT AFFAIRS

WEEKLY

WEEK-2
FEBRUARY
2021

MAINS

PRELIMS

GS-1

Hurricanes and Typhoons moving 30km closer to coasts every decade

HISTORY & CULTURE

• 'CHAURI CHAURA' CENTENARY CELEBRATIONS

GOVERNANCE

• CORRUPTION PERCEPTION INDEX 2020

ECONOMY

- 2021 CENSUS TO GO DIGITAL
- AIR POLLUTION IN RURAL INDIA: IGNORED BUT NOT ABSENT

GS-2

Revival of age-old border row between Maharashtra and Karnataka

ENVIRONMENT

- DISCOVERY OF INDIA'S FIRST EVER LITHIUM RESERVES IN KARNATAKA'S MANDYA
- CONSERVATION OF FISHING CAT
- DENMARK APPROVES PLAN FOR ENERGY ISLAND IN NORTH SEA

GS-3

Special UK BNO Visa Scheme for millions of Hong Kong Residents

SCIENCE & TECHNOLOGY

- SQUARE KILOMETRE ARRAY, THE WORLD'S LARGEST RADIO TELESCOPE
- SILK-PROTEIN-BASED TUMOUR MODELS FOR TESTING OUT CANCER
- STARDUST 1.0

GS-3

Budget Preparation

The future of Indian Agriculture

GS-4

Employee's accountability for Social Media Post

GS SCORE

An Institute for Civil Services

www.iasscore.in

— **Disclaimer** —

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- 2 (FEBRUARY, 2021)

CONTENTS

17Section - A: MAINS CURRENT AFFAIRS			
Area of GS		Topics in News	Page No.
GS-I	GEOGRAPHY	<ul style="list-style-type: none">Hurricanes and typhoons moving 30km closer to coasts every decade	02
GS-II	GOVERNANCE	<ul style="list-style-type: none">Revival of age-old border row between Maharashtra and Karnataka	04
	INTERNATIONAL RELATIONS	<ul style="list-style-type: none">Special UK BNO Visa Scheme for millions of Hong Kong residents	06
GS-III	ECONOMY	<ul style="list-style-type: none">Budget Preparation	08
		<ul style="list-style-type: none">The future of Indian agriculture	11
GS-IV	ETHICS	<ul style="list-style-type: none">Employee's accountability for social media post	14

Section - B: PRELIMS CURRENT AFFAIRS			
Area of GS		Topics in News	Page No.
GS-I	HISTORY & CULTURE	<ul style="list-style-type: none">'Chauri Chaura' Centenary Celebrations	18
GS-II	GOVERNANCE	<ul style="list-style-type: none">Corruption perception index 2020	19
GS-III	ECONOMY	<ul style="list-style-type: none">2021 Census to go digital	19
		<ul style="list-style-type: none">Air pollution in rural India: Ignored but not absent	20
		<ul style="list-style-type: none">Discovery of India's First ever Lithium Reserves in Karnataka's Mandya	21
	ENVIRONMENT	<ul style="list-style-type: none">Conservation of Fishing Cat	23
		<ul style="list-style-type: none">Denmark approves plan for energy island in North Sea	23
	SCIENCE & TECH.	<ul style="list-style-type: none">Square Kilometre Array, the world's largest radio telescope	24
		<ul style="list-style-type: none">Silk-protein-based tumour models for testing out cancer	25
		<ul style="list-style-type: none">Stardust 1.0	26

PATHWAYS

for **UNDER GRADUATES**

3 & 2 Year IAS FOUNDATION
PROGRAMME



22 FEBRUARY
2021

IAS 2022

GS FOUNDATION

1 Year & 2 Year PROGRAMME



15 MARCH
2021

📍 1B, 2nd Floor, Pusa Road Karol Bagh, New Delhi-110005,
(Adjacent to Karol Bagh Metro Gate No. 8)

✉ info@iasscore.in  [/iasscore](https://www.facebook.com/iasscore)

Visit:  www.iasscore.in

 **8448496262**

SECTION: A
(MAINS)

CURRENT AFFAIRS

HURRICANES AND TYPHOONS MOVING 30KM CLOSER TO COASTS EVERY DECADE

CONTEXT

High-intensity tropical cyclones have been moving closer to coasts over the past 40 years, potentially causing more destruction than before, as per a study. The research is published in Science.

◎ BACKGROUND

- The team analyzed global data from 1982-2018 on tropical cyclone formation, movement and intensity mainly gathered from satellite observations.
- In the observation, it has been found that at maximum intensity, cyclones were on average getting 30km closer to coastlines per decade.
- There were also on average two more cyclones per decade within 200 km of land.
- The study emphasizes the need to understand all aspects of tropical cyclones.

◎ ANALYSIS

Understanding the geography of Hurricanes

- Hurricanes are large, swirling storms with winds of 119 kilometers per hour (74 mph) or higher.
 - ▶ That's faster than a cheetah, the fastest animal on land.
- The storms form over warm ocean waters and sometimes strike land.
- When a hurricane reaches land, it pushes a wall of ocean water ashore. This wall of water is called a **storm surge**, which along with heavy rain can cause flooding, especially near the coast.

The different terms hurricanes, typhoons, and tropical cyclones all refer to tropical storms. They are named differently depending on the region they occur in.

- **Hurricanes** are tropical storms that form over the North Atlantic Ocean and Northeast Pacific.
- **Cyclones** are formed over the South Pacific and the Indian Ocean.
- **Typhoons** are formed over the Northwest Pacific Ocean

How hurricanes are categorized?

- Hurricanes are categorized according to the speed of their maximum sustained winds.
- The scale used for this purpose, called the **Saffir-Simpson Hurricane Wind Scale**, was developed in 1971 by civil engineer Herbert Saffir and by meteorologist and then-director of the U.S. National Hurricane Center, Bob Simpson.
- The **Saffir-Simpson scale** rates a hurricane's severity from 1 (very dangerous) to 5 (catastrophic), based on the following wind speeds:
 - ▶ **Category 1:** Winds of 74-95 mph (119-153 km/h)
 - ▶ **Category 2:** Winds of 96-110 mph (154-177 km/h)
 - ▶ **Category 3:** Winds of 111-129 mph (178-208 km/h)
 - ▶ **Category 4:** Winds of 130-156 mph (209-251 km/h)
 - ▶ **Category 5:** Winds exceeding 157 mph (252 km/h)

Key-highlights of the Study

- Previously, studies have shown that the maximum intensity of tropical cyclones is found further towards the poles. However, this does not necessarily mean these more poleward storms are more devastating.
- **Western ward shift:** The new findings show cyclones at maximum intensity are also migrating westward, bringing them closer to coastlines and increasing their potential for damage.
- **Occurrence of the additional cyclone:** Each decade since the 1980s, an additional two cyclones have come within 124 miles (200 km) of land.

Reasons behind the shift

- The exact mechanism for this enhanced westward steering is unknown, but it may be due

to the same underlying mechanism for poleward migration of cyclones as rising temperatures cause atmospheric patterns to shift.

- The researchers also stated that it could be connected to changes in tropical atmospheric patterns possibly caused by **climate change**.

Atlantic Zone, a special case?

- Cyclones across the globe are moving closer to land, except Atlantic hurricanes.
- It's mysterious that, unlike other areas, the Atlantic hurricane basin didn't show any significant westward shift.
- The reason is not sure but that could be because the Atlantic hurricane zone is **more closely surrounded by continents**.
- The busiest tropical cyclone basin is in the western Pacific, where there are the most landfalls and the shift westward is twice as big as the global average.

A puzzling situation

- Though storms are getting closer to land, researchers still have not seen a significant increase in landfalls, which "is still a puzzle".
- It is not only the landfall that causes damage. When the cyclone is close enough to land it can also cause damage like **Hurricane Sandy** and **Dorian** in 2019, both of which skirted along the US coast for a considerable time before making landfall.

Are Hurricanes impacted by climate change?

- Hurricanes feed off of heat energy, so as Earth's global temperatures continue to rise, hurricanes are bound to be affected.

- So far, it's not evident that hurricanes are necessarily forming more often because of rising temperatures, although scientists do predict that hurricane activity and intensity will likely increase in future years.

How does it impact?

- **Impact on economy:** Globally, 80 to 100 cyclones develop over tropical oceans each year, impacting regions in the Pacific, Atlantic, and Indian Oceans and causing billions of dollars of damage.
- **Risk to coastal communities:** These storms are likely becoming more destructive as they spend more time along coastlines at their highest intensities. The risk to some coastal communities around the world may be increasing and that will have profound implications over the coming decades.
- **Other impacts are:**
 - ▶ Impact on environment: Destruction to flora and fauna
 - ▶ Agricultural loss
 - ▶ Loss of life and livelihood

◎ CONCLUSION

This new research is plausible, especially since scientists have already seen a shift of storms more toward the north and south poles, but it raises questions that require follow up, especially why no corresponding increase in landfalls has been found. All these strange shifts are taking cyclones out of their preferred environment of warm tropical waters away from land.

REVIVAL OF AGE-OLD BORDER ROW BETWEEN MAHARASHTRA AND KARNATAKA

CONTEXT

Recently, a book has been published by the state government of Maharashtra, titled 'Maharashtra-Karnataka Seemavadi: Sangharsh Aani Sankalp' (Maharashtra-Karnataka Boundary Dispute: Struggle and Pledge). The book is a collection of articles, news, and other material on the demand that Marathi-speaking areas in Karnataka should be integrated into Maharashtra.

◎ BACKGROUND

- The dispute began when the erstwhile Bombay Presidency had present-day Karnataka districts of Vijayapura, Belagavi, Dharwad, and Uttara-Kannada.
- In 1948, the Belgaum municipality requested that the district be incorporated into the proposed Maharashtra state.
- But with the States Reorganisation Act of 1956, Belgaum and 10 talukas of Bombay State became a part of the then Mysore State.
- This happened because states were divided based on linguistic and administrative lines.
- This long-smoldering inter-state dispute resurfaces from time to time.

speakers outnumbered Kannada-speakers in those areas.

Mahajan Commission

- Eventually, the Centre formed the **Mahajan Commission**, comprising representatives of both Maharashtra and then Mysore, for a resolution in 1966.
- The commission in 1967 recommended handing over 264 villages to Maharashtra, which was formed in 1960 while leaving Belgaum and 247 other villages with the southern state.
- However, Maharashtra rejected the report calling it illogically

◎ ANALYSIS

What is the dispute all about?

- The genesis of the dispute lies in the reorganization of states along linguistic and administrative lines in 1956.
- The erstwhile Bombay Presidency, a multilingual province, included the present-day Karnataka districts of Vijayapura, Belagavi, Dharwad, and Uttara Kannada.
- In 1948, the Belgaum municipality requested that the district, having a predominantly Marathi-speaking population, be incorporated into the proposed Maharashtra state.
- However, **The States Reorganisation Act of 1956** made Belgaum and 10 talukas of Bombay State a part of the then Mysore State (which was renamed Karnataka in 1973).
- While demarcating borders, the Reorganisation of States Commission sought to include talukas with a Kannada-speaking population of more than 50 percent in Mysore.
- But the opponents of the region's inclusion in Mysore have maintained that in 1956, Marathi-

What is claimed by both states?

- **Maharashtra** has for long claimed that certain areas that are a part of Karnataka - **Belagavi, Karwar, and Nippani** – should be handed over to Maharashtra. The state contends that the majority of the population in these areas is Marathi-speaking.
- **Karnataka**, on the other hand, maintains that Belagavi is an integral part of the state and has built the **Suvarna Vidhana Soudha**, modeled after the **Vidhana Soudha**, the state secretariat in **Bengaluru**, where a legislative session is held once a year.

What is the present situation?

- Maharashtra has continued to demand that 814 villages from Karnataka based on the theory of village being the unit of calculation, contiguity, and enumerating linguistic population in each village.
- Then in 2004, the Maharashtra government moved the Supreme Court seeking resolution of the border dispute under **Article 131(b)** of the Constitution.
- This case is still pending in the apex court.

- The Karnataka government too has made moves emphasizing its territory over Belgaum by constructing an assembly building and holding its winter session there annually.
- It also formally changed the name of **Belgaum to Belagavi** in 2014.

Article 131

- Article 131 of the Constitution of India vests the Supreme Court with original jurisdiction over any dispute arising between the states or between the center and state.
- SC has original jurisdiction in any dispute:
 - (a) between the Government of India and one or more States
 - (b) between the Government of India and any State or States on one side and one or more other States on the other; or
 - (c) Between two or more States(if the dispute involves any question (whether of law or fact) on which the existence or extent of a legal right depends)

Major inter-state disputes in India

- **Assam – Nagaland**
 - ▶ **Boundary:** 434 kilometer
 - ▶ **Area of dispute:** Assam districts of Sivasagar, Jorhat, and Golaghat.
 - ▶ **Commissions:** Sundaram Commission in 1971 and Shastri Commission in 1985
- **Gujarat – Rajasthan**
 - ▶ **Area of dispute:** Mangadh Hill, located on the border of the two states. Gujarat claims half of the hill, while Rajasthan claims the entire hill is theirs.
- **Karnataka- Kerala**
 - ▶ **Area of dispute:** district of Kasaragod
 - ▶ **Committee:** Supreme Court, Justice M. Mahajan (1967)
- **Orissa – West Bengal**
 - ▶ **Area of dispute:** 82 villages under Jaleswar and Bhogarai blocks in Balasore district
- **Assam – Meghalaya**
 - ▶ **Area of dispute:** Mikir Hills
- **Others**
 - ▶ **Bihar and UP:** The inter-state boundary between Bihar and Uttar Pradesh continued

to fluctuate due to the frequent change in the course of rivers.

- ▶ **Haryana and UP:** Likewise, Haryana and Uttar Pradesh's fluctuating boundary was sought to be solved in the 1970s. But issues are still not resolved.
- ▶ **Haryana and Punjab:** Punjab and Haryana are locked over the transfer of Chandigarh to Punjab, and part of the Fazilka sub-district of Punjab to Haryana.
- ▶ **Orissa and Andhra Pradesh:** Between Orissa and Andhra Pradesh, the boundary dispute relates to 63 villages falling presently in Orissa. But neither government has asked for Central intervention.
- ▶ **Orissa and Jharkhand:** Similarly, Orissa and Jharkhand have a boundary dispute relating to seven villages of the Mayurbhanj and Keonjhar districts. Orissa has claimed territories in the former princely states of Seraikela and Kharsuan, now in Jharkhand.
- ▶ **Orissa and Chattishgarh:** Orissa has locked with Chhattisgarh over three villages of Naupada district. Orissa and West Bengal are also stalemated over five villages of Balasore and Mayurbhanj districts of Orissa.
- ▶ **Himachal Pradesh and Uttarakhand:** Himachal Pradesh is contesting Uttarakhand over six places of Dehradun district, adjoining its Shimla district.
- ▶ **Arunachal Pradesh and Assam:** Arunachal Pradesh claims territory in Assam based on history.
- ▶ **Meghalaya and Assam:** Assam and Meghalaya don't have a major boundary dispute, the reply said. But Nagaland claims 5,000 sq miles of territory in Assam "on historical grounds".

The inter-state border disputes in the country need to get resolved soon. And it can only happen when the government finds a lasting solution to border disputes.

◎ WAY FORWARD

The State government of Maharashtra is now planning to organize a Maharashtra government conference in the disputed areas, enlisting more beneficiaries from this region for schemes of the Maharashtra government, and creating a database of all such persons who can be mobilized to support the state in the tussle.

SPECIAL UK BNO VISA SCHEME FOR MILLIONS OF HONG KONG RESIDENTS

CONTEXT

A visa scheme to allow Hong Kong residents to come to the UK opened recently, with some 300,000 people expected to apply. The visa, which is open to holders of a British National (Overseas) passport and their immediate dependents, will offer a fast track to UK citizenship.

◎ BACKGROUND

- The move comes as China and Hong Kong have said they will no longer recognize the British National Overseas (BNO) passport as a valid travel document from January 31.
 - ▶ **BNO** is a special status created under British law in 1987 that specifically relates to Hong Kong.
 - ▶ They allowed holders to visit the U.K. visa-free for up to six months, but didn't automatically confer the right to live or work there.
 - ▶ Holders also weren't eligible to access public funds.



- The scheme is also in a response to Beijing's decision last year to impose a sweeping **national security law** on Hong Kong, a former British colony, to snuff out huge and sometimes violent pro-democracy protests.
- UK called the imposition of the security law "a serious and clear breach of the Sino-British Joint Declaration".
- Britain says with the new visa policy, it is fulfilling a historic and moral commitment to Hong Kong people.

- The UK government forecasts the new visa could attract more than 300,000 people and their dependants to Britain.

National Security Law

- The law criminalises four activities: "secession, subversion, organization and perpetration of terrorist activities, and collusion with a foreign country or with external elements to endanger national security".
- The law allows Beijing to override local laws while enhancing its ability to suppress political opposition.
- It also gives the mainland power to exercise jurisdiction over select criminal cases, raising the prospect that for the first time in Hong Kong's history, suspects could be extradited across the border to face trial, and potentially prison time, in the mainland.

◎ ANALYSIS

Hong Kong's British History

- Hong Kong was previously a port city of the **British Empire**, and inherited a different society, culture and legal tradition from Mainland China.
- As a result, when it was handed back to China under the **1984 Sino-British joint declaration ("1984 Joint Declaration")**, the legally binding treaty sought to retain Hong Kong's way of life, common law legal system and capitalist economy, and guarantee its politico-economic status for 50 years from 1997.
- But before Hong Kong was returned, the UK and China made an agreement to introduce "**one country, two systems**".
- It was agreed that Hong Kong's capitalist system, which was different to China's communist model, would continue.

- It also meant Hong Kong has its own legal system and borders, and rights such as freedom of assembly, free speech and freedom of the press are protected.
- It is one of the few places in Chinese territory where people have been able to mark the **1989 Tiananmen Square crackdown**, where the military opened fire on unarmed protesters in Beijing.
- The agreement signed in 1984 was set to last until 2047.
- But the UK says this agreement - known as **the Joint Declaration** - is under threat because the territory has passed a new law that gives China sweeping new controls over the people of Hong Kong.
- The new law came into effect on the 30 June following months of mass protests.
- The UK also has an interest in Hong Kong because 300,000 UK nationals live there.

What is BNO Citizenship?

- **British National Overseas (BNO) citizenship** is a type of British nationality created in 1985 that people in Hong Kong could apply for before the 1997 handover to China to retain a link with the UK.
- The lifelong status, which cannot be passed down to family members, did not give holders any special rights.
- It meant only they could visit the UK for six months without a visa.
- But the new system, in place from 31 January 2021, allows these BNO citizens and their close family to apply for visa in the UK.

What is in the new law?

- Under the special visa scheme, the visas will be issued to those in Hong Kong who hold a

British National (Overseas) passport and their immediate dependents, and will offer a fast track to UK citizenship.

- Applicants who get the visa can live and work in the UK for 5 years, after which they apply for settlement.
- **Citizenship:** Twelve months after this, they can apply for citizenship.

How many people are expected to come?

- The British government estimates 5.4 million Hong Kong residents are eligible for the scheme, that's about 72% of its 7.5 million population.
- These include:
 - ▶ 2.9 million BNOs
 - ▶ 2.3 million dependents of BNOs
 - ▶ 187,000 18-23-year-olds with at least one BNO parent
- It is difficult to say how many eligible people will actually come to the UK.
- A government report published last year put the number of people expected to take up the offer at about 300,000 in the first five years.

◎ WAY FORWARD

It is not clear how many Hong Kongers will take up the offer, especially as the coronavirus restricts global flights and mires much of the world, including Britain, in a painful economic malaise. But a BN(O) passport is available to a huge number of people (about 70 percent of Hong Kong's 7.5 million population), Britain predicts up to 154,000 Hong Kongers could arrive over the next year and as many as 322,000 over five years, bringing an estimated "net benefit" of up to £2.9 billion (\$4 billion).

BUDGET PREPARATION

CONTEXT

The Union Finance Ministry presented the Union Budget 2021-22 in Parliament.

◎ BACKGROUND

- The genesis of the central Budget in India goes back to 1860 when it was first introduced by then finance minister James Wilson, two years after the transfer of Indian administration from the East India Company to the British Crown.
- The Budget is presented through 14 documents, some of which are mandated by the Constitution of India, while others are like explanatory documents.
- Union Budget is an annual financial statement of estimated receipts and expenditures of the Government of India in respect of each financial year.
- According to Article 112 of the Constitution of India, the Union Budget of a year is a statement of the estimated receipts and expenditure of the government for that particular year.
- stakeholders such as farmers, businessmen, FIIs, economists, and civil society groups to take their views.
- Once the pre-Budget meetings are over, a final call on the tax proposals is taken by the finance minister.
- The proposals are discussed with the PM before the Budget is frozen.

How is the budget presented?

- The Secretary-General of the Lok Sabha Secretariat seeks approval of the President after the Speaker agrees to the date suggested by the government.
- The finance minister presents the budget in the Lok Sabha outlining key estimates and proposals.
- He briefs the cabinet on the budget proposals through a 'summary for the cabinet' just before he presents the budget.
- The budget is tabled in the Parliament after the minister's speech.

What comprises the Budget?

The union budget is divided into two parts-

- **Capital Budget:**
 - ▶ As the name suggests, the capital budget provides details with regards to the capital payments and capital receipts of the government. The capital payments can be the money spent on infrastructure, healthcare facilities, etc. The capital receipts account for the loans taken from the RBI or the general public.
- **Revenue Budget:**
 - ▶ The revenue budget comprises of the revenue expenditure and revenue receipts. The government is known to be suffering from a 'revenue deficit' in case if the revenue receipts are lower than the revenue expenditure.

◎ ANALYSIS

Who makes the budget?

- The budget is made through a consultative process involving the ministry of finance, NITI Aayog, and spending ministries.
- **Finance ministry** issues guidelines to spend based on which ministries present their demands.
- The **Budget Division of the Department of Economic Affairs** in the finance ministry is the nodal body responsible for producing the Budget.

How is the budget made?

- Budget Division issues a circular to all Union ministries, states, UTs, autonomous bodies, depts, and the defense forces for preparing the estimates for the next year.
- After ministries & departments send in their demands, extensive consultations are held between Union ministries and the Department of Expenditure of the finance ministry.
- At the same time, the Department of Economic Affairs and Department of Revenue meet

Constitutional sanctity of the Budget

- The preparation of the Budget for the approval of the legislature is a Constitutional obligation.
- The control of Parliament over the finances of the country is exercised through legislative prerogative over taxation and legislative control over expenditure.
- To this effect, there are specific provisions in the Constitution consolidating these tenets.
- Article 265 provides that no tax shall be levied or collected except by authority of law; Article 266 provides that no expenditure can be incurred from the Consolidated Fund of India and of the states, except with the authorization of the legislature.
- Here are the constitutional and legal bases of some other key aspects of the Budget:

• Annual Financial Statement

- ▶ Interestingly, the Constitution of India does not specifically use the word Budget.
- ▶ **Article 112 of the Constitution** provides for laying before Parliament an '**Annual Financial Statement**' providing a statement of the estimated receipts and expenditure for the financial year. This statement evidences the receipts and expenditure of the government in three separate parts under which accounts are maintained. These are:
 - Consolidated Fund of India
 - Contingency Fund of India
 - Public Account
- ▶ According to constitutional provisions, the Annual Financial Statement has to distinguish expenditure on revenue account from other expenditure. It comprises:
 - **Revenue budget:** Proceeds of taxes and interest and dividend on investments made by the government, fees, and other receipts for services rendered by the government.
 - **Capital budget:** Capital receipts and payments, including loans, raised by the government from the public, borrowings from Reserve Bank, et al.

• Demand for Grants

- ▶ The estimates of expenditure from the Consolidated Fund of India included in the Annual Financial Statement are required to be voted by the Lok Sabha and submitted in

the form of Demand for Grants as mandated by **Article 113**.

- ▶ These demands are arranged ministry-wise, and a separate demand for each of the major services is presented.

• Appropriation Bill

- ▶ Pursuant to the Demand for Grants, the Appropriation Bill is introduced for appropriating monies out of the Consolidated Fund of India to meet the said grants as provided under **Article 114**.
- ▶ The Appropriation Bill is intended to give authority to the government to incur expenditure from and out of the Consolidated Fund of India.
- ▶ The procedure for passing this Bill is the same as in the case of other Money Bills.

Finance Bill

- At the time of introduction of the Annual Financial Statement, a Finance Bill is also presented before Parliament - the Finance Bill satisfies the criteria of a 'Money Bill' as it provides for the imposition, abolition, remission, alteration, or regulation of taxes proposed in the Budget.
- A 'Money Bill' is defined under **Article 110(1)**.
- It is pertinent to note that every Finance Bill is a Money Bill but every Money Bill is not a Finance Bill.
- A Bill is deemed to be a Money Bill if it contains provisions dealing with six specific matters provided under **Article 110(1)**.
- The Finance Bill, which provides for the imposition, abolition, remission, alteration or regulation of taxes proposed in the Budget, falls under **Article 110(1) (a) of the Constitution**.

Vote-on-account, vote of credit and exceptional grant

- Pending the completion of the parliamentary procedure relating to the voting on the Demand for Grants, and passing of the Appropriation Bill, the Constitution under **Article 116** grants power to the Lok Sabha to make a grant in advance for authorising the withdrawal of money from the Consolidated Fund of India in respect of the estimated expenditure for a part of any financial year, referred to as vote-on-account.
- The Lok Sabha also has the power to make grants for meeting unexpected demands, referred to as vote of credit, or to make an exceptional grant.

Fiscal Responsibility and Budget Management Act, 2003

- In addition to the Budget documents, the Fiscal Responsibility and Budget Management Act, 2003, mandate that certain additional documents shall be laid before Parliament.
- This includes the macro-economic framework for the relevant financial year; fiscal policy strategy statement for the financial year; medium-term fiscal policy statement and medium-term expenditure framework statement.

- Upon President's recommendation, obtained under **Article 117(1) and 117(3)** for introduction and consideration of the Budget, it is laid before the Lok Sabha by the finance minister.

◎ CONCLUSION

The Budget assumes great significance as it impacts the overall Indian economy. A Union Budget that includes and covers all the different sectors of the economy, is a must for the development of the country.

THE FUTURE OF INDIAN AGRICULTURE

CONTEXT

- The question of future of Indian agriculture has been around for some time now since the agrarian distress and crisis in the sector.
- It has become more important in the context of the spate of recent reforms that include permitting private wholesale markets, contract farming, direct purchase from farmers and land leasing across states both under the earlier state-level Acts, and now under the central Acts.

◎ BACKGROUND

- India is an agricultural country. However, the sector is facing various issues and challenges due to the recent reforms introduced by the Centre.
- These reforms led to the dispute, which raises questions not only about agriculture but about dwindling populations in rural India where small communities are already struggling to survive.
- Future of agriculture is a very important question for the planners and all other stakeholders. However, its future depends on many existing and missing policies and directions of policy reforms.
- But, it is sad to note that India does not have a policy for the same. The sector loses its policy focus as it is a **state subject**, but practically being run by the Centre for long time.
- When the sector is faced with economic, social and environmental crisis, absence of policy is the major factor in the crisis not being attended by any stakeholder.

◎ ANALYSIS

Assessing the profile the Indian agricultural sector

- **Contribution to GDP:** The farm production sector contributes only **13 percent** of the gross domestic product (GDP). Small farmers contribute 51 percent of agricultural output with 46 percent of operated land, and a much higher share (70 per cent) in high-value crops.
- **Employment generation:** The sector engages 44 percent workforce.
 - ▶ This presents a dismal picture of the sector as compared with other sectors, as the earnings are poor.
- **Land division:** 85 percent of India's farmers operate less than five acres of land, half of which in many parts of India may be dry / rain-fed and

only a part of their income comes from farming activity now with others coming from wages, off-farm and non-farm activities.

- **Self-sufficient India:** Although the sector's contribution in the GDP has reduced to less than 20 percent, agricultural production has grown. This has made us self-sufficient and taken us from being a begging bowl for food after independence to a net exporter of agriculture and allied products.
 - ▶ **Total foodgrain production** in the country is estimated to be a record 291.95 million tonnes, according to the second advance estimates for 2019-20.
- **Crops:** India is the top producer of milk, spices, pulses, tea, cashew and jute, and the second-largest producer of rice, wheat, oilseeds, fruits and vegetables, sugarcane and cotton.

The increasing pressure on land

- Increasing population, increasing average income and globalisation effects in India will increase demand for quantity, quality and nutritious food, and variety of food.
- As per the estimates of Indian Council for Agricultural Research (ICAR), demand for foodgrain would increase to **345 million tonnes by 2030**.
- Therefore, pressure on decreasing available cultivable land to produce more quantity, variety and quality of food will keep on increasing.

Agro-Climatic Zones

- India is blessed with large arable land with 15 agro-climatic zones as defined by ICAR, having almost all types of weather conditions, soil types and capable of growing a variety of crops.
 - ▶ **Western Himalayan Region:** Jammu and Kashmir, Himachal Pradesh and the hill region of Uttarakhand

- ▶ **Eastern Himalayan Region:** Arunachal Pradesh, the hills of Assam, Sikkim, Meghalaya, Nagaland, Manipur, Mizoram, Tripura, and the Darjeeling district of West Bengal
- ▶ **Lower Gangetic Plain Region:** West Bengal (except the hilly areas), eastern Bihar and the Brahmaputra valley
- ▶ **Middle Gangetic Plain Region:** Parts of Uttar Pradesh and Bihar
- ▶ **Upper Gangetic Plains Region:** Central and western parts of Uttar Pradesh and the Hardwar and Udham Nagar districts of Uttarakhand
- ▶ **Trans-Ganga Plains Region:** Punjab, Haryana, Chandigarh, Delhi and the Ganganagar district of Rajasthan
- ▶ **Eastern Plateau and Hills:** Chhotanagpur Plateau, extending over Jharkhand, Orissa, Chhattisgarh and Dandakaranya
- ▶ **Central Plateau and Hills:** Bundelkhand, Baghelkhand, Bhandar Plateau, Malwa Plateau, and Vindhya hills
- ▶ **Western Plateau and Hills:** Southern part of Malwa plateau and Deccan plateau (Maharashtra)
- ▶ **Southern Plateau and Hills:** Interior Deccan and includes parts of southern Maharashtra, the greater parts of Karnataka, Andhra Pradesh, and Tamil Nadu uplands from Adilabad District in the north to Madurai District in the south
- ▶ **Eastern Coastal Plains and Hills:** Coromandal and northern Circar coasts of Andhra Pradesh and Orissa
- ▶ **Western Coastal Plains and Ghats:** Malabar and Konkan coastal plains and the Sahyadris
- ▶ **Gujarat Plains and Hills:** Hills and plains of Kathiawar, and the fertile valleys of Mahi and Sabarmati rivers
- ▶ **Western Dry Region:** West of Aravalli (Rajasthan)
- ▶ **Island Region:** Andaman-Nicobar and Lakshadweep

In spite of all these facts, the average productivity of many crops in India is quite low.

What are the key-trends expected in the sector?

- **Changing demand** due to increase in incomes, globalisation and health consciousness

is affecting and going to affect more the production in future. Demand for fruits and vegetables, dairy products, fish and meat is going to increase in future.

- **Innovation:** Researches, technology improvements, protected cultivation of high value greens and other vegetables will be more. There will be more demand of processed and affordable quality products.
- **Competition among private companies:** More competition will be there among private companies giving innovative products, better seeds, fertilisers, plant protection chemicals, customised farm machinery and feed for animals etc in cost effective ways at competitive prices giving more returns on investment by farmers.
- **Eco-friendly and climate resilient crop:** Use of biotechnology and breeding will be very important in developing eco-friendly and disease resistant, climate resilient, more nutritious and tastier crop varieties.
- **Adoption of AI:** Precision farming with soil testing-based decisions, automation using artificial intelligence will be focused for precise application inputs in agriculture. Sensors and drones will be used for precision, quality, environment in cost effective manner. Use of GPS technology, drones, robots etc controlled by smart phones etc can make life of farmers easy and exciting with good results.
- **Nano-technology:** Usage of nano-technology for enhancement of food quality and safety, efficient use of inputs will be in near future.
- **Digitalization:** Retailing in agriculture will largely be digitalised.
- A study estimates that over 90 percent of kirana stores across the country will be digitalised by 2025 with modern traceable logistics and transparent supply chain.
- What are the major constraints in Indian agriculture?
- **Small land holding:** Farming for subsistence which makes scale of economy in question with majority of small holdings.

- According to **2010-11 Agriculture Census**, the total number of operational holdings was 138.35 million with average size of 1.15 hectares (ha).

- Of the total holdings, 85 per cent are in marginal and small farm categories of less than 2 ha (GOI, 2014).

- **Low access of credit:** Low-access of credit and prominent role of unorganised creditors affecting decisions of farmers in purchasing of inputs and selling of outputs
- **Less utilisation of technology:** Less use of technology, mechanisation and poor productivity for which first two points are of major concern
- **Less value addition:** Very less value addition as compared to developed countries and negligible primary-level processing at farmers level.
- **Poor infrastructure:** Poor infrastructure for farming making more dependence on weather, marketing and supply chain suitable for high value crops.
- How these key-challenges can be addressed?
- **Cost-effective technologies:** There is a need for work on cost-effective technologies with environmental protection and on conserving our natural resources.
- **Fair and responsible production:** The sector needs to engage with fair and responsible production and trade issues on a priority basis even for domestic markets.

- **Value chain approach:** A combination of livelihoods and agribusiness or value chain approach can help leverage the sector for betterment of its stakeholders i.e. farmers, workers and others around it.
- **Protective measures for small producers:** There is a need for a policy at union and state levels and even more effective regulation to protect small producer interest in a globalised market context to leverage the strengths of modern and large players in the agribusiness value chains for a win-win for all stakeholders involved so that inclusive and effective sustainable agricultural development could be attempted.
- **Institutional innovation:** There is also a need for institutional innovations besides product, process and organisational innovations in the sector to deal with existing and emerging challenges and problems of sustainability in the sector which can be converted into opportunities.

◎ WAY FORWARD

India is among the world's most essential food producers. However, the agricultural sector deserves attention and support as it evolves. The sector needs innovation, and entrepreneurship is the best way forward. The potential is mind-boggling.

EMPLOYEE'S ACCOUNTABILITY FOR SOCIAL MEDIA POST

◎ INTRODUCTION

- Recently, an employee of Kannur International Airport was reportedly terminated from his post after the person criticised the state government on his Facebook post.
- The employee was apparently unhappy with the Supreme Court's verdict on the Shree Padmanabhaswamy Temple and made his opinions public. Getting busted for posting something offensive on social media is not a new phenomenon.
- James Gunn, a filmmaker, was removed from the director's chair for Guardians of the Galaxy Vol 3, when his past tweets came haunting.
- However, in his case, it was a matter of political opinions and sharing them on social media.
- Having a say about an issue of national concern and expressing it on social media has been one of the routine activities in the last couple of years.
- That has quite often led to many terminations as well.
- This is not the lone case. Recently, India's tech giant Infosys also terminated the services of an employee who wrote an "inappropriate post" on social media.
- One of the more current ethical issues in business is the question of employees' personal behavior on social media outside of work hours.
- However, there's still quite a large gray area of situations that may or may not make it ethically justifiable to fire an employee for their social media conduct.

Here are a few questions to consider with regards to this ethical dilemma in business:

- Is it right to punish employees for certain types of social media posts?
- Are businesses obligated to keep an employee who holds distasteful views and expresses them online?

So, question arises whether it is correct to terminate an employee for his /her personal post on social media.

- It's fair not to sever ties with an employee just because her/his tweet is politically motivated. An

allegation of any sort needs to be investigated and a fair chance has to be given to the person to explain.

- These days, social media is its own judge. For instance, let's assume there is a junior in a multinational IT company who posts something about Kashmir or Muslims. Immediately, someone picks it up and insinuates that it is an American company's view of India. This is the problem with social media.
- The problem is one can't wear one's company's identity and put a video that denounces a gender, government, leader or community.
- The employer, doesn't care if the employee has a personal view, because that is not reflective of the company's view. The problem arises when these two start merging.
- The best thing to do will be to just follow the company's social-media policy. No company stops anyone from sharing their views on social media as an individual.

Many companies have elaborate social-media guidelines that employees have to adhere to. They are discouraged from writing anything unworthy about the organisation in a public forum. But what about political thoughts and reasoning? Should they be regulated as well? If yes, is it fair to curb someone's personal opinion?

- It all depends on the code of ethics of the company. Many dissuade employees from putting any politically-motivated posts on social media.
- Nowadays, the internet serves as a hard disc once one puts out something on it, it stays for good.
- One can, of course, have a debate on soft topics, but anti-national posts should not be tolerated. One can have a neutral or mild opinion. If they are not offensive, it is okay.
- Freedom of expression cannot be mistaken as a means to write whatever one wants. It may hurt the reputation of the company.
- Many people believes such a thing always warrants a sacking. One can give a warning to the employee as well and ask them to remove those posts. One can't wear one's company's

identity and put a video that denounces a gender, government, leader or community.

Social media is not going anywhere now that it is serving its purpose in more ways than one. For most people, this is the only gateway to share what they want to express. Many nameless and faceless entities are voicing their views and concerns on a regular basis now. For the young people, the way to get their views registered is through social media. It's a big influencer. They find a lot of comfort in being faceless, nameless activists."

Company like Indigo has a very clear **social-media policy**. It doesn't take away anybody's right to express what they want to on social media, as long as that doesn't come in the way of Indigo as a business enterprise. However, it is also advisable that one has to be responsible to not badmouth any key individual of the country just because they have a device in their hands. With the ability to be nameless and faceless also comes social responsibility.

When is it right to fire an employee over Social Media Posts?

- When their behavior clearly crosses a stated employer policy or other obvious line, such as being threatening or harassing toward other employees.
- When the behavior is clearly violating the social media policy, or when the employee is on social media for personal use while on the clock. (This likely wouldn't be something that would result in termination for a first offense, but it could escalate.)
- Behaving in a way that tarnishes the employer's reputation, either by association or simply from the employee's conduct.
- Divulging confidential information.
- Posting things that prove the employee has lied to the organization, such as taking medical or disability-related leave but then showing on social media that the reason for the leave was not valid.

When is it wrong to fire an employee over Social Media Posts?

- When the post is protected in some way. The most prominent example that some employers overlook or get wrong: Employees should not be fired when their social media post could be considered "concerted activity" and could, therefore, be protected activity under various laws and regulations.
- When there are specific rules that must be followed before a termination (and those are not followed).
 - ▶ For example, there may be contractual stipulations with the employee's union that outline steps that must be taken before any termination. If those steps aren't followed, the termination may be illegal even if it would have been fine otherwise.
- When the social media post represents some other protected activity, like whistle-blowing, or protected reporting of something else, such as discrimination or harassment.
- When the employee are protected through the laws and regulation.
- When it comes to employee etiquette on social media, the bottom line for most companies is that the employee can be justifiably fired if the activity is deemed disloyal or financially harmful to the company. Of course, neither employer nor employees would want to get to a point like that.

What can company do about ethical issues related to social media?

- Addressing ethical problems in company connected to social media can be tricky mainly because most situations will fall in the gray area.
- To help eliminate confusion or disclarity for employer, the best step to take is to create a set of rules and policies that clearly describe what is (and isn't) acceptable for employees to do on social media. Company's guidelines for employee behavior on social media should be paired with training sessions and periodic company-wide reminders via email.

GS SCORE

An Institute for Civil Services

IAS 2021 TEST SERIES

MAINS & PRELIMS

BATCH
06

PRELIMS 2021
TEST SERIES
COMPLETE REVISION TEST
TOTAL 37 TESTS

BATCH
STARTS

14
FEBRUARY

BATCH
03

TARGET PT 2021
COMPLETE PRELIMS *through*
4500+ MCQS

BATCH
STARTS

24
FEBRUARY

BATCH
01

IAS 2022
INTEGRATED TEST SERIES
for Mains & Prelims

Single source for Integrated Preparation

BATCH
STARTS

14
FEBRUARY

📍 1B, 2nd Floor, Pusa Road Karol Bagh, New Delhi-110005,
(Adjacent to Karol Bagh Metro Gate No. 8)

✉ info@iasscore.in  [/iasscore](https://www.facebook.com/iasscore)

Visit:  www.iasscore.in

 8448496262

SECTION: B

(PRELIMS)

CURRENT AFFAIRS

To Attempt
Weekly Current Affairs Test, Visit

www.iasscore.in

'CHAURI CHAURA' CENTENARY CELEBRATIONS

© **CONTEXT:** 4th February 2021 marks the 100th year celebration of Chauri Chaura at Gorakhpur, Uttar Pradesh.

About Chauri Chaura Incident

- The '**Chauri Chaura**' incident is a landmark event in the country's fight for independence.
- The **incident** took place on 4 February 1922 at ChauriChaura in the Gorakhpur district of the United Province (modern Uttar Pradesh) in British India.
- During this, a large group of protesters participating in the **Non-cooperation movement**, clashed with police who opened fire.
- In retaliation the demonstrators attacked and set fire to a police station, killing all of its occupants.
- The incident led to the death of three civilians and 22 policemen.
- Mahatma Gandhi, who was strictly against violence, halted the non-co-operation movement on the national level on 12 February 1922, as a direct result of this incident.

Quick Facts

- Date: February 5, 1922
- Place: Chauri Chaura, Gorakhpur district, The United Provinces
- Nature of Incident: Violent attack
- Number of Casualties: 25 deaths
- Historical Significance: 'Non-cooperation Movement' was called off due to the incident

Non-Cooperation Movement

- The Non-Cooperation Movement was launched in 1920 in response to two key events in 1919 —
- the Rowlatt Act
- the Jallianwala Bagh massacre
- Under the Rowlatt Act, political cases could be tried without a jury and the suspect detained for an indefinite period of time.
- The Act had sparked widespread protests across the country and in April 1919, Gandhi had planned to visit Amritsar to join one such protest. However, he was stopped in Delhi and arrested on 10 April, along with other prominent leaders. This angered the people of Amritsar who took to the streets.
- Following this, General Reginald Dyer was tasked with restoring order in the city and among other measures, a ban was put in place on public gatherings.
- On 13 April 1919, General Dyer opened fire on a gathering of unarmed men, women and children at Jallianwala Bagh, killing hundreds. More than 10,000 people had gathered in the park to protest the British rule.
- While official statistics note that 400 civilians died, the actual number is believed to be much higher.

- The Jallianwala Bagh massacre marked a turning point in India's history as well as Gandhi's approach to independence. He now demanded purna swaraj or complete independence from the British.
- The Non Cooperation Movement was the **first step towards this total independence**.

CORRUPTION PERCEPTION INDEX 2020

- ◎ **CONTEXT:** India's rank has slipped six places to 86th among 180 countries in corruption perception index (CPI) in 2020.
- ◎ **ABOUT:**
 - **Corruption Perception Index (CPI)**
 - **Released by:** Transparency International (TI).
 - The Corruption Perceptions Index (CPI) is the leading global indicator of public sector corruption, providing an annual snapshot of the relative degree of corruption in 180 countries and territories.
 - The index ranks 180 countries and territories by their perceived levels of public sector corruption according to experts and business people.
 - It uses a scale of 0 to 100, where 0 is highly corrupt and 100 is very clean.
 - A country with a higher score has a higher rank.
 - **Key-findings of the Index**
 - India ranked at 86th position with a score of 40 while more than two-thirds of countries scored below 50, with a global average score of just 43.
 - India's score is below the average score of the Asia-Pacific region (31 countries) and global average.
 - India was ranked at 80th position out of 180 countries in 2019.
 - With a score of 31, India's neighbour Pakistan ranked at 124. Other top-scoring nations include Singapore with a score of 85, Australia with 77 and Hong Kong also with 77.
 - This year, New Zealand and Denmark rank at first position with scores of 88.
 - Somalia and South Sudan rank lowest at 179th position with scores of 12.

2021 CENSUS TO GO DIGITAL

- ◎ **CONTEXT:** The Ministry of Finance announced that the upcoming Census 2021 is set to be the first digital census in the history of India and that the government has allocated over Rs 3,700 crore for the same.
- ◎ **ABOUT:** **What is Census?**
 - Population Census is the total process of collecting, compiling, analyzing or otherwise disseminating demographic, economic and social data pertaining, at a specific time, of all persons in a country or a well-defined part of a country.
 - As such, the census provides snapshot of the country's population and housing at a given point of time.

- **Responsible agency:** The Census is conducted by the **Office of the Registrar General and Census Commissioner**, India, under the Ministry of Home Affairs, Government of India.
- **Duration:** It is done every 10 years.
- **First and last Census:** The census was first conducted in 1872 during the British rule. The last census was done in 2011.
- **First complete census:** It was done in 1881.

The Census Act, 1948

- The Census Act was enacted in 1948 to provide for the scheme of conducting population census with duties and responsibilities of census officers.

The first-ever digital census

- The 2021 census of India is set to begin in March 2021, after the previous census was undertaken in 2011 – marking India's population at 1.21 billion back then
- The census will be conducted through a mobile application. The decision to move from the traditional pen and paper was taken to promote **Digital India**.
- The exercise is said to be carried out in 16 languages.

The Netherlands implemented its first virtual census in **1981** using the population register and surveys.

AIR POLLUTION IN RURAL INDIA: IGNORED BUT NOT ABSENT

- ◎ **CONTEXT:** Air pollution is a transboundary problem, it transcends rural and urban boundaries. But the issue is rarely discussed and action plans are rigid. Rural air pollution has usually been ignored by scientists and policy makers alike for the longest time.
- ◎ **ABOUT:**
 - **Sources of pollution in rural areas**
 - **Vehicular pollution:** While the extent of vehicular pollution may not be the same in villages as in cities, the same sources richly contribute to pollution in rural areas.
 - **Toxic air, effluent discharge due to operation of heavy industries:** Most heavy industries now operate beyond city limits — in rural belts — and the local population is the recipient of toxic air and effluent discharge, often due to weak oversight.
 - **Stubble burning:** Northern India faces seasonal issue of stubble burning, which, despite media attention and Delhi's annual air apocalypse, has continued unabated.
 - **Agricultural pollution:** Agriculture is a rich source of reactive nitrogen in India, as only 30 per cent of the nitrogen is taken up by plants. The rest is released into the atmosphere, soil and water.

Weak monitoring network

- **Monitoring stations disproportionately located:** India has **804 manual monitoring stations** under the **National Ambient Monitoring Programme (NAMP)** and **274 real-time monitoring stations (CAAQMS)**. Most of these are disproportionately located in tier-1 cities; a few are in tier-2 cities.
 - A quick analysis shows that real-time monitoring is nearly absent in rural areas.
 - Additionally, even cities in Arunachal Pradesh, Andaman and Nicobar Islands and Manipur don't have a single real-time monitoring station.
- The NAMP network of manual monitors fare only marginally better. It does cover all states and includes even smaller cities and towns, but 96 per cent monitoring stations are within the city boundaries and do not cover surrounding rural hamlets.
- Out of the 804 stations, only 26 are located in rural villages. Names of villages and their tehsils have been provided in the NAMP list. Two of these stations are in Dadra and Nagar Haveli among the Union territories.

Recent government schemes

- **National Biomass Cookstoves Initiative:** In 2009, the Union Ministry of New and Renewable Energy launched the National Biomass Cookstoves Initiative and installed about 27 lakh units by 2017.
- **Unnat Chulha Abhiyan Programme:** Unnat Chulha Abhiyan Programme was launched in 2014, wherein both family and community cookstoves using biomass briquettes were distributed.
- **Pradhan Mantri Ujjwala Yojana (PMUY):** Launched in 2016, it is a countrywide initiative to increase use of clean cooking fuels among those below the poverty line.

DISCOVERY OF INDIA'S FIRST EVER LITHIUM RESERVES IN KARNATAKA'S MANDYA'

◎ CONTEXT

- In a major development, India has discovered its maiden lithium deposits of **1,600 tonnes in the igneous rocks located in the Marlagalla-Allapatna region of Karnataka's Mandya district.**
- **Though the discovery is very small in size in the present, it marks an initial success for the nation's attempts to domestically mine the metal in India, which is in high demand for making electric vehicles (EV).**

◎ ABOUT:

What is Lithium?

- Lithium is a **metal** of utmost importance. It is everywhere today.
- Lithium is a key element for new technologies and finds its use in ceramics, glass, telecommunication and aerospace industries.
- The well-known uses of lithium are in lithium ion batteries, lubricating grease, high energy additives to rocket propellants, optical modulators for mobile phones and as a converter to tritium used as a raw material for thermonuclear reactions i.e. fusion.
- It's the juice that powers our smartphones, tablets, cameras, laptops and even cars. This element is the driver of the technology age. And it could dictate the future of civilization.

The survey was done on surface and limited subsurface in the pegmatites of Marlagalla - Allapatna area by Atomic Minerals Directorate for Exploration and Research (AMD), a constituent unit of Department of Atomic Energy.

- **Important facts**

- The growing demand for Lithium in India is driven by the goal of Indian government to become one of the largest electric vehicle markets world over.
- NITI Ayog has set an ambitious target to increase the number of electric vehicles by 30 percent by 2030.

The projected market

While electric cars in India remain a small segment, with an estimated 3,000 sold in 2018 compared with the 3.4 million fossil fuel-powered cars in the same year, the nation is forecast become the fourth-largest market for EVs by 2040, when the segment will comprise nearly a third of all vehicles sales.

- India's first Lithium plant has been set up at Gujarat in 2021, where Manikaran Power Limited will invest Rs 1000 crore to set up this refinery.
- The refinery will use Lithium ore to produce base battery material.

Karnataka's **Marlagalla-Allapatna area**, along the **Nagamangala Schist Belt**, is being seen as among the most promising geological domains for potential exploration for lithium and other rare metals.

- Bolivia is the leading producer with 2.10 crore tonnes lithium reserves, and Argentina has 1.70 crore tonnes of Lithium.
- Chile has around 8.6 Mn tonnes, Australia has 2.8 Mn tonnes, and even Portugal has around 60K tonnes of lithium deposits.

In 2020, India, signed an agreement with an Argentinian firm to jointly prospect lithium in the South American country that has the third largest reserves of the metal in the world.

What are the advantages of lithium for the renewable sector?

- The element is promoted because it has a lot of potential in the renewable sector of the modern energy spectrum, some of its advantages include:
- **Lithium-ion batteries** can serve as a solution for varied power demands across the spectrum. It can range from vast energy storage to portable energy storage solutions. They can thus be used as large or small batteries.
- Lithium-ion battery has **high energy density**. This implies Li-ion batteries can last way longer between charges, while maintaining high current output. This makes it an ideal battery for most of our contemporary needs.
- Li-ion batteries are **low to minimum maintenance**, most other cells like Nickel-Cadmium (Ni-Cd) batteries have a huge cost of ownership and maintenance.

- Li-ion batteries come in all shapes and sizes, giving the users with many options to choose from according to their needs.

CONSERVATION OF FISHING CAT

- ◎ **CONTEXT:** The fishing cat, a lesser-known feline species, is facing several threats due to its depleting habitat. So, a worldwide campaign by the Fishing Cat Conservation Alliance to protect the feline is being started.

About Fishing Cat

- The **fishing cat** (*Prionailurus viverrinus*) is a medium-sized wild **cat** of **South and Southeast Asia**.
- It is very much content and survives in water.
- **Protection Status:** Since 2016, it is listed as **Vulnerable** on the IUCN Red List.
- **Threats:** Fishing cat populations have declined severely over the last decade. Some of the reasons are for the declining population is:
 - **habitat loss** [wetland degradation and conversion for aquaculture and other commercial projects]
 - **sand mining** along river banks
 - **agricultural intensification** resulting in loss of riverine buffer
 - targeted hunting and retaliatory killings
- **Occurrence:** They are found in **Sundarbans in West Bengal and Bangladesh, Chilika lagoon**, and surrounding wetlands in Odisha, Coringa, and Krishna mangroves in **Andhra Pradesh**.
 - Fishing cats have a patchy distribution along the Eastern Ghats. They are found in
 - ▶ estuarine floodplains
 - ▶ tidal mangrove forests
 - ▶ inland freshwater habitats

Fishing Cat Conservation Alliance

- The Fishing Cat Conservation Alliance is a team of conservationists, researchers, and enthusiasts across the world.
- **Aim:** To have a world with functioning floodplains and coastal ecosystems.

DENMARK APPROVES PLAN FOR ENERGY ISLAND IN NORTH SEA

- ◎ **CONTEXT:** The Danish government has reportedly approved plans for the construction of the first artificial “energy island” in the North Sea.

- ◎ **ABOUT** What the energy island?

- The island would act as a hub for offshore wind development, built 80km off the coast of Denmark in the North Sea.

- The island covers an area of 120,000m², equivalent to 18 football fields.
- Once completed, it would store and supply energy to power nearly three million European households.
- It would also supply green hydrogen for shipping, aviation, industry and heavy transport sectors.

Impact of the development

- The latest move comes as the European Union announced transformation of its electricity system to mostly rely on renewable energy within ten years.
- It will also increase its offshore wind energy capacity approximately by 25 times before 2050.
- The project is part of Denmark's target to cut greenhouse gas emissions by 70% by 2030 from 1990 levels

SQUARE KILOMETRE ARRAY, THE WORLD'S LARGEST RADIO TELESCOPE

◎ **CONTEXT:** The Square Kilometre Array Observatory (SKAO) Council held its maiden meeting and approved the establishment of the world's largest radio telescope.

- ◎ **ABOUT:**
- **Square Kilometre Array Observatory (SKAO)**
 - SKAO is a new intergovernmental organisation dedicated to radio astronomy.
 - **Headquarters:** The United Kingdom.
 - **Countries involved:** At the moment, organisations from ten countries are a part of the SKAO. These include Australia, Canada, China, India, Italy, New Zealand, South Africa, Sweden, the Netherlands and the UK.
 - **The proposed telescope**
 - The telescope, proposed to be the largest radio telescope in the world, will be located in Africa and Australia whose operation, maintenance and construction will be overseen by SKAO.
 - The completion is expected to take nearly a decade at a cost of over £1.8 billion.
 - As per NASA, the telescope will accomplish its scientific goals by measuring neutral hydrogen over cosmic time, accurately timing the signals from pulsars in the Milky Way, and detecting millions of galaxies out to high redshifts.
 - Some of the questions that scientists hope to address using this telescope include:
 - ▶ the beginning of the universe
 - ▶ how and when the first stars were born
 - ▶ the life-cycle of a galaxy
 - ▶ exploring the possibility of detecting technologically-active civilisations elsewhere in our galaxy
 - ▶ understanding where gravitational waves come from

About Radio telescopes

- Unlike optical telescopes, radio telescopes can detect invisible gas and, therefore, they can reveal areas of space that may be obscured by cosmic dust.
- Significantly, since the first radio signals were detected by physicist Karl Jansky in the 1930s, astronomers have used radio telescopes to detect radio waves emitted by different objects in the universe and explore it.
- According to NASA, the field of radio astronomy evolved after World War II and became one of the most important tools for making astronomical observations since.

SILK-PROTEIN-BASED TUMOUR MODELS FOR TESTING OUT CANCER

◎ **CONTEXT:** Researchers from IIT Guwahati have come up with silk-protein-based tumour 3D model for testing cancer drugs.

◎ **ABOUT:** Key features of the Model

- **Bio-activity:** It involves fabrication of a bio-active composite of silk proteins from two species of silk moths.
- **3-D base:** It builds a scaffold that provides a three-dimensional base for growing tumours.
- **Imitate native environment:** This 3D silk-based tumour model imitates native tumour microenvironment, complex tumour physiology and metastasis, thus improving drug screening efficacy.

How scientists built scaffolds?

- The scientists mixed the silk fibroins extracted from the cocoons of the **domestic silk moth** (*Bombyx mori*) and the **silk glands of the muga silk moth** (*Antheraea assama*) in equal proportions and used them to build up scaffolds on which they grew breast and liver tumour cell cultures.
- As a proof of concept, the researchers created breast and liver tumouroids and these showed similar tumour physiology in 3D spatiotemporal arrangements and drug-resistance, as in native solid tumours.
- They also tested the screening capacity of the tumours on known anticancer drugs, **Doxorubicin and Paclitaxel.**
- The tumoroids grown on the silk composite exhibited increased resistance to cancer drugs (as in native conditions) compared to monolayers and spheroids.

The need

- Normally, cancer drugs are tested using patient-derived **primary cancer cells**, on **tumours** induced in animal models or on genetically modified organisms.
- These models are insufficient to reproduce the three-dimensional morphology and physiology of human tumours.

STARDUST 1.0

◎ **CONTEXT:** Stardust 1.0, a rocket powered by bio-derived fuel successfully took off from former military base in Maine.

◎ **ABOUT:** What is Stardust 1.0?

- Stardust 1.0 is a launch vehicle suited for student and budget payloads.
- The rocket is 20 feet tall and has a mass of roughly 250 kg.
- **Payloads:** The rocket can carry a maximum payload mass of 8 kg and during its first launch carried three payloads. The payloads included:
 - a cubesat prototype built by highschool students
 - a metal alloy designed to lessen vibrations, which is developed by Kellogg's Research Labs
 - a cubesat from software company Rocket Insights
- **Manufactured by:** The rocket is manufactured by **bluShift**, an aerospace company based in Maine that is developing rockets that are powered by bio-derived fuels. Other rockets being developed by the company include
- **Stardust Gen. 2, Starless Rouge and Red Dwarf**, which is a low-Earth orbit (LEO) vehicle and is designed to fly a maximum payload of 30 kg.

First to be powered by biofuel

- Stardust 1.0 became the first commercial space launch powered by biofuel, which is non-toxic for the environment as opposed to traditionally used rocket fuels.
- Though the biofuel used for the launch is not yet clear, but as per the reports it can be sourced from farms around the world.

Significance of the rocket

- **Cheaper and environment friendly:** These rockets will help to launch small satellites called **cubesats** into space in a way that is relatively cheaper than using traditional rocket fuel and is less toxic for the environment.

GS SCORE

An Institute for Civil Services

OUR CLASSROOM & ONLINE COURSES

GS FOUNDATION

- ☑ 1 Year IAS Foundation
- ☑ 3 & 2 Year IAS Foundation
- ☑ GS Mains Foundation

OPTIONAL FOUNDATION

- ☑ Political Science
- ☑ History
- ☑ Geography
- ☑ Public Administration

MAINS COURSES

- ☑ GS Mains Advance
- ☑ GS Mains QIP
- ☑ Ethics Integrity & Aptitude
- ☑ Essay Writing
- ☑ GS Paper 3

TEST SERIES

- ☑ Prelims Test Series
- ☑ GS Mains Test Series
- ☑ Essay Test Series
- ☑ Ethics Test Series
- ☑ Optional Test Series
 - Political Science
 - Geography
 - History
 - Public Administration

Visit:  www.iasscore.in

GS SCORE

An Institute for Civil Services



CSE RESULTS

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

SUCCESS IS A PRACTICE WE DO!

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		
97	100	54	57	63	64	68	71	75	77	80	83	93

TOP 100
ALL INDIA RANKING
CSE 2016

5	6	9	15	26	29	43	48	53	59	67
---	---	---	----	----	----	----	----	----	----	----

TOP 100
ALL INDIA RANKING
CSE 2015

9	13	26	34	39	75	77	78	89	91
---	----	----	----	----	----	----	----	----	----