

**CURRENT EVENTS
AND
ANALYSIS
(October 2019)**

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ECONOMY

MACROVIEW OF INDIAN ECONOMY:

Core Sector Contracts by 5.2 Per cent

- The **core sector of Indian economy contracted massively by 5.2 per cent in September 2019 compared to September 2018**. This data was released on October 31, 2019.
- 5.2 per cent contraction in the core sector indicates a deepening industrial slowdown.
- On a cumulative basis for the first half of the fiscal (April-September 2019-20), the performance of the eight core sectors remained dismal, with a growth of 1.3% as against 5.5% during the corresponding period a year ago.

What is Core Sector:

- **The core sector consists of eight core industries:**
 - Coal,**
 - Crude oil,**
 - Natural gas,**
 - Steel,**
 - Cement,**
 - Electricity,**
 - Fertilizers, and**
 - Refinery products.**
- The **index of eight core industries makes up 40.27 per cent** of the **Index of Industrial Production (IIP)**.
- In September 2019, production declined in 7 out of 8 core industries namely **coal (-20.5 per cent), crude oil (-5.4 per cent), natural gas (-4.9 per cent), refinery products (-6.7 per cent), steel (-0.3 per cent), cement (-2.1 per cent), and electricity (-3.7 per cent)**.
- Coal contracted the steepest by 20.5 per cent.
- Only **fertilisers** was **exception**. It registered a growth of **5.4 per cent** in September, 2019 over September, 2018.

Multiple Factors Slowing Indian Economy : Raghuram Rajan, former RBI Governor

- Delivering the OP Jindal lecture on Indian economy at Brown University, U.S., on October 18, 2019, Raghuram Rajan, former Reserve Bank of India (RBI) Governor said India's economy has slowed considerably from the 9% growth in the first quarter of 2016.
- The country's growth slumped to a six-year low of 5% in the April-June quarter, and is likely to be near this trough at 5.3% in the July-September quarter. Moody's recently cut India's GDP forecast for 2019-20 to 5.8% from the earlier estimate of 6.2%.
- Mr. Rajan attributed this slump in growth to **fall in investment, consumption, exports and the NBFC crisis**, but said there were **two major tipping points**, an "ill-conceived **demonetisation** and the **poorly executed GST roll-out**. He also stated that India has not been able to figure out "**new sources of growth**."

Centralisation of Decision Making:

- Citing the example of demonetisation, the former governor blamed the **centralised way the government made decisions**, saying that bold ideas by the top come out of the blue, and are not tested broadly,

which can be seriously problematic." "India has become too big an economy to run from the top, and recent experience has shown that it simply doesn't work," Rajan pointed out.

- He stated that the sequence of demonetisation and GST was essentially the last straw that seems to have broken the Indian economy's back because it came at a point when the Indian economy was already relatively weak.
- Mr. Rajan has often expressed concerns about the excessive centralisation of power in political decision-making in the country. As RBI governor, Rajan had red-flagged the issue of **mounting bad loans in the banking system** and tightened provisioning rules for banks.
- He stated that after assuming office in 2014, the Modi government had promised that bankers would be free to take commercial decisions and there wouldn't be phone calls from New Delhi asking them to lend to certain big borrowers.
- However, the former RBI governor said new programmes imposed on banks, like Mudra where each branch is given a target for giving loans under the scheme, force them to move away from commercial principles of lending.

India should be open to foreign competition:

- Mr. Rajan said that India should also shed its inhibition about foreign competition. "We cannot be so insecure that we believe allowing foreign competition will demolish our culture, our ideas, and our firms. Indeed, it is by erecting protective walls that we have always fallen behind, he said.

Government Should Reverse Cuts on Corporate Taxes: Abhijit Banerjee

- Mr. Abhijit Banerjee, Indian-born American economist who is one of the recipients of the 2019 Nobel Prize for Economics, suggested reversal of the corporate tax rate cuts by the Union Government.

In September 2019, the government slashed the corporate tax rate to 22% from 30% for existing companies, and to 15% from 25% for new manufacturing companies. Including a surcharge and cess, the effective tax rate for existing companies would now come down to 25.17% and 17.01 % for new companies.

- He stated that corporate tax cut involved huge burden on the Government exchequer (around Rs.1.45 lakh crore annually) and this instead could be better spent by giving more money through Pradhan Mantri Kisan Samman Nidhi (PM KISAN) expanding the PM KISAN scheme to include landless labourers as well, and raising wages under the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) . Giving money to these segments will lead to spending which will boost consumption.
- He said that the corporate sector is already sitting on a lot of cash and the reason for not investing is **due to lack of demand in the economy.**

Need to Have more items in higher slabs of the GST :

- He also stated that India should have more items in the higher slabs of the GST in order to improve the government's tax to GDP ratio. He stated that the middle class consumption should be taxed and the Government cannot just increase wealth taxes and income taxes on the rich and expect to get a huge share of GDP. (In the Budget 2019-20, the Union Government hiked the Surcharge on super rich i.e those earning above Rs. 2 crores.)

He stated that China has more items in the higher slabs of GST and as a result tax collections have gone up. India and China used to have roughly the same percentage of GDP in indirect taxes and now China has much higher share.

On Tackling Distress in the Auto Sector:

- He also stated that the distress in the auto sector caused by the massive layoffs could have been mitigated if India had a system where companies contribute to a fund that can then be used to pay workers who have been laid off.

India's Growth Rate Projected at 6 Per cent in 2019-20 by World Bank

- India's growth rate is projected to fall to **6 per cent in 2019-20** as per the latest edition of the 'South Asia Economic Focus' Report released by the World Bank on October 13, 2019. In 2018-19, it stood at 6.8 per cent, down from 7.2 per cent in the 2017-18 financial year.
- The report, however, stated that India is expected to gradually recover to 6.9 per cent in 2020-21 and 7.2 per cent in 2021-22 due to easing of monetary policy by the Reserve Bank of India.
- In the first quarter of 2019-20, the economy experienced a significant and broad-based growth deceleration with a sharp decline in private consumption.
- The Report noted that **inflation** averaged 3.4 per cent in 2018-19 and remained well below the RBI's mid-range target of 4 per cent in the first half of 2019-2020. This allowed the RBI to ease monetary policy via a cumulative 135 basis point cut in the repo rate since January 2019 and shift the policy stance from neutral (neither reduction nor increase) to accommodative (rate cut anytime).

Decline in Poverty:

- According to the World Bank Report, **poverty has continued to decline**, albeit possibly at a slower pace than earlier. Between 2011-12 and 2015-16, the poverty rate declined from 21.6 to 13.4 per cent (USD 1.90 PPP/day).
- The report, however, said disruptions brought about by the introduction of the **Goods and Services tax (GST)** and **demonetisation**, combined with the **stress in the rural economy** and a **high youth unemployment rate in urban areas** may have heightened the risks for the poorest households.

Consumption to Remain Low:

- The report noted that the consumption is likely to remain depressed in 2019-20 due to **slow growth** in rural income, domestic demand (as reflected in a sharp drop in sales of automobiles) and credit from non-banking financial companies (NBFCs).

Investment:

- However, the investment would benefit from the recent cut in effective corporate tax rate for domestic companies in the medium term.

Growth Recovery:

- Growth is expected to gradually recover to 6.9 per cent in 2020-21 and 7.2 per cent in 2021-22 as the rural demand benefits from effects of income support schemes, investment responds to tax incentives and credit growth resumes. However, exports growth is expected to remain modest, as trade wars and slow global growth depresses external demand.

Policy Challenges for India:

- The main policy challenge for India is to address the causes of softening private consumption and the structural factors behind weak investment, the bank said. This will require restoring the health of the financial sector through reforms of public sector banks' governance and a gradual strengthening of the regulatory framework for NBFCs, while ensuring that solvent NBFCs retain access to adequate liquidity.
- It will also require efforts to contain fiscal slippages, as higher-than-expected public borrowings could put upward pressure on interest rates and potentially crowd-out the private sector.

Additional Information:

Structural Reforms (Basic Reforms):

Structural reforms in India relate to the following.

- **Rigid Labour Laws:** Labour laws do not allow flexible hiring and firing. Industry has been demanding flexible labour laws as demand for goods is always not constant.

Rigidity of Labour Laws in India:

Firms with 100 or more workers in India need to seek government permission to retrench or lay off any worker. This permission is rarely granted.

The Industrial Employment (Standing Orders) Act, 1946 requires employers in firms with 100 or more workers (50 or more in certain states) to seek permission even for reassigning a worker from one task to another.

The Trade Unions Act allows any seven employees to form a union, thereby using up a large proportion of the firm's managerial resources in dealing with several unions within itself.

Through this regulation, unions have the right to strike and represent workers in legal disputes with employers.

The Contract Labour (Regulation And Abolition) Act, 1970 restricts, and even prohibits, the use of contract workers for certain tasks.

Thus, these labour regulations effectively prevent firms from using labour-intensive methods of production. Also, since these laws are applicable after a certain threshold employment levels, firms often have an incentive to remain small and "informal". As a result, India is now being outperformed not only by China but also by Bangladesh and Vietnam.

- **Electricity Charges:** India has relatively high electricity charges due to cross subsidy i.e industry charged higher rates to provide free or subsidised electricity to the poor.
- **Land Acquisition:** Land acquisition is lengthy, costly and time consuming process.
- **Logistics costs:** Freight costs are also high relative to China and the east asian countries like Thailand, Malaysia, Vietnam, etc.

Structural issues make India a high-cost country which cannot compete with the above countries.

India's Growth Rate Projected at 6 Per cent in 2019-20: IMF

- The International Monetary Fund (IMF), in its bi-annual '**World Economic Outlook**' Report released on October 15, 2019, reduced India's economic growth forecast to **6.1%** for the **2019-20** fiscal from its July 2019 projection of 7%, citing weaker than expected outlook for domestic demand.
- IMF also lowered India's GDP growth forecast for 2020-21 by 20 bps to 7.2%
- The IMF joins other multilateral institutions, rating firms and brokerages in cutting economic growth estimates for India, after Indian economy grew at its slowest pace in six years in the June quarter at 5%.

The World Bank, on October 13, 2019, slashed its economic growth forecast for India to 6%, citing a broad-based and severe cyclical slowdown. Moody's Investors Service lowered its 2019-20 growth forecast for India to 5.8% from 6.2% earlier, stating the economy was experiencing a pronounced slowdown. The rating agency's projection is the most pessimistic so far.

- The Indian economy is battling a severe demand slowdown and liquidity crunch that resulted in growth rate slowing to 5% in the three months ended June, while growth in private consumption expenditure slumped to an 18-quarter low of 3.1%. India's industrial output contracted 1.1% in August, its worst performance in 7 years, signalling a deepening of the economic downturn.
- The IMF report stated that India's economy decelerated in the second quarter (April-June), held back by sector-specific weaknesses in the **automobile sector** and **real estate** as well as **lingering uncertainty about the health of non-bank financial companies**.

Suggestions:

- The Report stated that apart from using monetary policy and structural reforms to address cyclical weakness and strengthen confidence, a credible fiscal consolidation path is needed to lower India's elevated public debt over the medium term.
- This should be supported by subsidy rationalisation and tax-base enhancing measures.
- It stated that governance of public sector banks and the efficiency of their credit allocation needs strengthening, and the public sector's role in the financial system needs to be reduced to make the banking system more efficient.

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- It also stated that reforms in hiring and dismissal regulations (Labour laws) would help incentivise job creation and absorb the country's large demographic dividend. For instance, firms with 100 or more workers in India need to seek government permission to retrench or lay off any worker. This permission is rarely granted.
 - Land reforms should also be enhanced to encourage and expedite infrastructure development.

Global Economy Growth at 3 Per cent:

- The report stated that global economy is in a synchronized slowdown and downgraded growth for 2019 to 3%, its slowest pace since the global financial crisis.
- It stated that global growth continues to be weakened by rising trade barriers and increasing geopolitical tensions.
- The IMF report estimated that the US-China trade tensions will cumulatively reduce the level of global GDP by 0.8% by 2020.
- Growth is also being weighed down by country-specific factors in several emerging market economies, low productivity growth and aging demographics in advanced economies.

Factors which would Support India's Growth:

- The Report said growth in India will be supported by **lag (delayed) effect of monetary policy easing, a reduction in corporate income tax rates**, and government programmes to support rural consumption.

India Should Work on Contract Enforcement and Land Digitalisation: World Bank Chief

- Mr. David Malpass, World Bank President, during his visit to the country in October 26, 2019, advised India to focus on **land digitalisation**, and **quick mechanism for enforcing contract**.
- He stated that improvement in these areas will help India to move further up in Ease of Doing Business (EoDB) ranking.
- He stated that commercial courts at the district level should be adequately resourced so that they can deliver judgments faster. This is an ability to enforce contracts in a practical way. He also advised setting up a fast-track commercial dispute resolution mechanism. This helps people enter into contracts if they know that the contract can be enforced, he stated.
- Similarly, with regards to land management and reforms, he said that digitalisation of the land data and making the data readily available throughout India would facilitate the buying and selling of land.

A country's competitiveness is a combination of factors:

- Mr. David Malpass complimented India for improving its rank in Ease of Doing Business (EoDB) to 63 from 142 five years ago.
- He, however, stated that a country's competitiveness is a combination of factors. Apart from 'ease of doing business', there are many other factors as investors choose where to invest in countries. These include macro-economic stability, skills of the workforce, etc.

World Bank to Spend \$ 5-6 billion Annually in India:

- Mr. David Malpass stated that World bank would continue with USD 6 billion annual lending target for India to support infrastructure development and alleviate poverty.
- At present, there are 97 projects that are being currently executed with loan assistance from the World Bank. It has committed USD 24 billion to these projects.

MONETARY POLICY

Repo Rate Reduced to 5.15 Per cent

- On October 4, 2019, the six-member Monetary Policy Committee (MPC) of the Reserve Bank of India reduced the repo rate by 25 basis points to
5.15 per cent from 5.40 per cent with immediate effect, fifth consecutive rate cut.
- The repo rate now stands at 5.15 per cent, the lowest since March 2010.
- The Monetary Policy Committee (MPC) has reduced the Repo Rate by a cumulative 135 basis points (1.35 per cent) since February 2019.
- All members of the MPC voted in favour of reducing the repo rate. However, Chetan Ghate, Pami Dua, Michael Debabrata Patra, Shri Bibhu Prasad Kanungo and Shri Shaktikanta Das voted for the 25 basis points rate cut while Ravindra H Dholakia voted for a 40 basis points rate cut.

What is Repo Rate?

- Repo rate is the rate at which the Reserve Bank of India lends money to commercial banks for meeting their short term fund requirements.

Why was Repo Rate reduced?

- Inflation is under control. Retail inflation for August 2019 stood at 3.21 per cent.
- Hence, money supply could be increased to revive slowing demand for goods and services.

Impact:

A repo rate cut

- allows banks to reduce interest rates for consumers, and
- lowers equal monthly instalments on home loans, car loans, and personal loans.

GDP Growth Revised Downwards to 6.1 Per cent in 2019-20:

- GDP growth for 2019-20 is revised downwards from 6.9 per cent in the August 2019 monetary policy to 6.1 per cent due to
weak domestic demand, and
impact of slow global growth on indian exports.

INFRASTRUCTURE

Telecom:

Supreme Court Rules in Favour of Government on Definition of Adjusted Gross Revenue (AGR)

- On October 24, 2019, the Supreme Court ruled in favour of the Department of Telecommunications (DOT) in a long-standing dispute with the telecom companies on the definition of adjusted gross revenue (AGR).
- Telecom operators pay both licence fee and spectrum usage charges (SUC) on Adjusted Gross Revenue (AGR) and the dispute pertained to inclusion/exclusion of receipts from non-core activities.
- The Supreme Court ruled that adjusted gross revenue (AGR) for telecom companies should include all revenue accrued to carriers, including that from noncore activities, backing the telecom department's stance in a 16-year-old case (2003). Noncore revenues include those from handset sales, rent, dividends, interest income, profit from sale of scrap, termination fees and roaming charges. Telecom companies had argued that only revenue derived from licensed services should be considered part of AGR.
- Of the 15 companies that had been served demands for licence fees worth a total of more than Rs 92,000 crore and spectrum usage charges (SUC) of a combined Rs 41,000 crore, only three - Bharti

Airtel, Vodafone Idea and Reliance Jio - are operating. The rest have either exited or are undergoing bankruptcy proceedings such as Aircel and Reliance Communications

- Vodafone Idea, would have to pay over Rs 40,000 crore in licence fees and spectrum usage charges, calculated as a percentage of AGR. Airtel faces a demand of over Rs 41,000 crore in licence fees and spectrum usage charges (SUC).

Telecom Companies Ask for Relief:

- Telecom sector in the country is facing severe financial stress with debt of more than Rs 7 lakh crore. Hence, the companies urged the government to assess the impact of the judgement and provide relief.
- Telecom companies said that they have not only invested over Rs 10 lakh crore in setting up mobile networks over the past 20 years, but also provide the lowest tariffs in the world to over 1.19 billion subscribers in India, besides contributing to employment, revenue generation and a 6.5% share of the country's GDP.

Union Cabinet Approves Revival Plan of BSNL and MTNL

- On October 23, 2019, the Union Cabinet approved the revival plan for loss making telecom Public Sector Undertakings(PSU's) : **Bharat Sanchar Nigam Limited (BSNL)** and **Mahanagar Telephone Nigam (MTNL)**. The two companies have a total debt of around Rs. 40,000 crore.

MTNL provides services in the metro cities of Mumbai and New Delhi in India while BSNL provides services in the rest of India.

Revival Plan consists of following measures:

- allotment of spectrum for 4G services,
- debt restructuring by raising of bonds with sovereign guarantee,
- reducing employee strength,
- monetisation of assets, and
- merger of BSNL & MTNL to make it a strong player in the telecom sector

1. Allotment of Spectrum:

- Government would allot 4G spectrum to BSNL and MTNL.
- Spectrum will be funded by the Government of India by capital infusion in these PSUs at a value of Rs 20,140 crore.

In addition, the Goods and Services Tax (GST) amount of Rs 3,674 Cr on this spectrum value will also be borne by the Government of India through Budgetary resources.

- Allotment of 4G spectrum will enable these PSUs to compete in the market dominated by private players like Airtel, and Reliance Jio in providing in delivering 4G services.

2. Long-term Bonds of Rs 15,000 Crore:

- BSNL and MTNL will also raise long-term bonds of Rs 15,000 crore.
- Government of India (GoI) will provide sovereign guarantee for these bonds. BSNL and MTNL will use the money raised through bonds to restructure their existing debt and also partly meet capital expenditure , operational expenditure and other requirements.

3. Voluntary Retirement of Employees:

- BSNL and MTNL will also offer Voluntary Retirement to their employees, aged 50 years and above through attractive Voluntary Retirement Scheme (VRS).

BSNL has 176,000 employees while MTNL has around 22,000 employees. BSNL has been reporting losses continuously since 2009-10 and has been declared "incipient sick". The employee cost of BSNL is 75% and that of MTNL is 87% of total income.

- The cost of VRS will be borne by the Government of India through budgetary support.

4. Monetising Assets:

- BSNL and MTNL will monetise their assets to raise resources for retiring debt, servicing of bonds, network upgradation, expansion and meeting the operational fund requirements.

AGRICULTURE

20th Livestock Census Released

- Livestock population in India increased by 4.6 per cent to **535.78 million** as per the provisional data of the 20th Livestock Census released by the Department of Animal Husbandry and Dairying on October 16, 2019. Livestock population was 512.06 million as per the 19th Livestock Census conducted in 2012.
- Total Bovine population (Cattle, Buffalo, Mithun and Yak) is 302.79 Million in 2019.
- Among the States, Uttar Pradesh has the highest number of livestock of 67.8 million (68.7 million in 2012), followed by Rajasthan 56.8 million (57.7 million), Madhya Pradesh: 40.6 million (36.3 million) and West Bengal: 37.4 million (30.3 million).
- While cattle accounted for 35.94 per cent of total livestock in the country, goats accounted for 27.80 per cent, buffaloes: 20.45 per cent, sheep: 13.87 per cent and pigs: 1.69 per cent.
- Interestingly, there is a 6 per cent decline in the total number of indigenous cattle over the previous census. On the contrary, the population of total exotic/crossbred cattle has increased by 26.9 per cent in 2019 as compared to previous census.
- There was a spectacular 16.8 per cent increase in the poultry population in the country to 851.81 million,

Livestock Population - Major Species: At a Glance

Category	Population(In million) 2012	Population(In million) 2019	% growth
Cattle	190.90	192.49	0.83
Buffalo	108.70	109.85	1.06
Sheep	65.07	74.26	14.13
Goat	135.17	148.88	10.14
Pig	10.29	9.06	-12.03
Mithun	0.30	0.38	26.66
Yak	0.08	0.06	-25.00
Horses & Ponies	0.63	0.34	-45.58
Mule	0.20	0.08	-57.09
Donkey	0.32	0.12	-61.23
Camel	0.40	0.25	-37.05
Total Livestock	512.06	535.78	4.63

Livestock Population, 2012 & 2019 of Major States:

S.No.	States	Population(In million) 2012	Population(In million) 2019	% Change
1	Uttar Pradesh	68.7	67.8	-1.35
2	Rajasthan	57.7	56.8	-1.66
3	Madhya Pradesh	36.3	40.6	11.81
4	West Bengal	30.3	37.4	23.32
5	Bihar	32.9	36.5	10.67

Poultry Population 2012 and 2019:

	<u>Population (In million) 2012</u>	<u>Population (In million) 2019</u>	<u>% growth</u>
Total Poultry	729.21	851.81	16.81
Backyard poultry	217.49	317.07	45.78
Commercial Poultry	511.72	534.74	4.50

Poultry Population, 2012 & 2019 of Major States:

S.No.	States	Population (In million) 2012	Population(In million) 2019	% Change
1	Tamil Nadu	117.3	120.8	2.92
2	Andhra Pradesh	80.6	107.9	33.85
3	Telangana	80.8	80.0	-0.93
4	West Bengal	52.8	77.3	46.34
5	Maharashtra	77.8	74.3	-4.49

INDIA & WORLD ECONOMY

India & WTO

India's Status as a 'Developing Country' Challenged in World Trade Organisation

- India's status as a 'developing country' has been challenged by the United States (U.S.).
- U.S. President Donald Trump's demanded that countries like India, China, Turkey, and South Korea should be stripped off their 'developing country' status in the World Trade Organisation (WTO).

About 'Developing Country' Status;

- Under the WTO system, generally, countries are designated as **developed, developing, and least developed countries** (LDCs).
- The WTO agreement provides that the LDC status of a country in the WTO is based on such status being recognised by the UN.
- But the **agreement does not mention any criterion** to determine a 'developing country' status. The WTO agreement calls for facilitating the progressive development of those countries that have low levels of development and are at the early stages of development. Countries self-designate themselves as 'developing country' due to the following benefits.

Benefits of 'Developing Country' Status?

The WTO Agreements contain provisions which give developing countries special rights called "special and differential treatment" provisions.

- These provisions provide for longer time periods for implementing Agreements and commitments. They can delay the withdrawals of subsidies which are trade distorting.
- Developed countries also offer non-reciprocal preferential treatment (such as zero or low duties on imports) to products originating in developing countries.
- Developing countries also have right to to restrict imports to protect particular industry, or in cases of balance-of-payments difficulties.
- Developing countries can also enter regional trading arrangements to extend trade concessions among themselves.

Why is the U.S Opposing the Concept of 'Developing Country'?

The U.S. proposed that any country that meets **one of the following criteria** shall not be eligible for **Special and Differential Treatment (S&DT)** benefits:

-
- share in world exports exceeding 0.5%;
 - classified as high-income group by the World Bank;
 - membership of G20;
 - membership of, or seeking accession to OECD.

The U.S stated that

- India's GDP has grown from \$0.60 trillion in 1995 to \$2.63 trillion in 2017,
- India is a member of the G20, and
- India's share in world exports is around 1.7% as of early 2019.

So, as per above criteria, India will not qualify as a developing country.

India's Stand:

However, India defended 'developed country' status stating that it still a poor country and thus requires **Special and Differential Treatment (S&DT)** provisions. The Government stated that

- India's GDP per capita is very low;
- India has 364 million people living in multidimensional poverty;
- domestic subsidies provided to per farmer is a meagre \$227; and
- India has a very low research and development capacity.

However, U.S was unimpressed by India's defence of 'developed country' status. In July 2019, U.S. declared that if substantial progress were not made in the WTO in reforming the determination of 'developing country' status, it would, within three months, unilaterally stop treating certain countries as 'developing country'. Thus, the U.S. would stop giving trade benefits to such countries. Recently, South Korea gave up its 'developing country' status.

Global Reports:

India Ranks 63 in World Bank's Doing Business Report-2020

- India improved its ranking by 14 places and stood at 63rd place in the 'Doing Business Report-2020' released by the World Bank on October 24, 2019. It stood at 77 in the last year report (2018).
- For the third consecutive year India is amongst the top 10 improvers.
- A total of 190 countries have been given ranking. The top three countries in the list are New Zealand, Singapore and Hong Kong. The bottom three countries are Somalia (Rank 190), Eritrea (Rank 189), and Venezuela (Rank 188).

Top Ten Countries in the List:

Rank	Country
1	New Zealand
2	Singapore
3	Hong Kong
4	Denmark
5	South Korea
6	United States of America
7	Geogea
8	United Kingdom
9	Norway
10	Sweden

Ranking of India and Its Neighbours:

<u>Country</u>	<u>Rank</u>
China	31
India	63
Bhutan	89
Nepal	94
Sri Lanka	99
Pakistan	108
Bangladesh	168
Maldives	147

Criteria for Ranking:

Rankings are given based on the time taken for the following ten criteria:

- Starting a Business,
- Dealing with Construction Permits,
- Getting electricity,
- Registering Property,
- Getting Credit,
- Protecting Minority Investors,
- Paying Taxes
- Trading across Borders
- Enforcing Contracts, and
- Resolving Insolvency.

Areas which Need Improvement:

- While there has been substantial progress in the overall ranking, India still lags in areas such as enforcing contracts (163rd) and registering property (154th).
- It takes 58 days and costs on average 7.8% of a property's value to register it, longer time and at greater cost than among Organisation for Economic Co-operation and Development (OECD) countries which are high-income economies.
- It also takes 1,445 days for a company to resolve a commercial dispute through a local first-instance court, almost three times the average time in OECD high-income economies.

India Ranks 68 in Global Competitiveness Index 2019

- India was ranked 68 out of 141 countries in the **Global Competitiveness Index 2019 Report** released by the Geneva-based **World Economic Forum (WEF)** on October 8, 2019.
- Singapore, ranked 1st, is the most competitive economy in the world followed by United States (Rank 2) and Hong Kong (Rank 3).
- India's rank slipped to 68 in 2019 from 58 in 2018 due to faster improvements of several countries previously ranked lower like Colombia, South Africa, Turkey, Azerbaijan, etc.

Top Ten Countries:

<u>Rank</u>	<u>Country</u>
1	Singapore
2	United States
3	Hong Kong
4	Netherlands
5	Switzerland
6	Japan
7	Germany
8	Sweden
9	United Kingdom
10	Denmark

India and BRICS Countries:

- Among the BRICS, China is by far the best performer with a rank of 28.

<u>Country</u>	<u>Rank</u>
China	28
Russia	43
South Africa	60
India	68
Brazil	71

India and South Asia:

<u>Country</u>	<u>Rank</u>
India	68
Sri Lanka	84
Bangladesh	105
Nepal	108
Pakistan	110

Criteria for Ranking:

- The World Economic Forum ranks the economies by taking into consideration 103 indicators organised into 12 pillars.
- These 12 pillars are Institutions; Infrastructure; ICT ((information, communications and technology) adoption; Macroeconomic stability; Health; Skills; Product market; Labour market; Financial system; Market size; Business dynamism; and Innovation capability.

Miscellaneous:

Nobel Prize in Economics

- The 2019 Nobel Prize for economics was awarded to Abhijit Banerjee, Esther Duflo and Michael Kremer for **their experimental approach to alleviating global poverty.**

Abhijit Banerjee, an Indian-born American economist, and Esther Duflo, a French-American economist, work in Massachusetts Institute of Technology, USA, while Michael Kremer works in Harvard University, USA.

Significance of their research work:

- Their research work played a **decisive role in reshaping research in development economics**.
- It has already helped in alleviating global poverty and has great potential to further improve the lives of the most impoverished people in the world.
- They adopted **Randomised Controlled Trials (RCTs)** approach in their research work to help in alleviating global poverty.

What are Randomised Controlled Trials (RCTs) ?

- The term is technically borrowed from the field of medicine. In the field of medicine, **Randomised Controlled Trials** are adopted to test the efficacy of newly developed drugs before they can be fully released on commercial scale.

Randomized controlled trials are the most reliable method for testing new drugs. They have become the standard that pharmaceutical companies must meet for calculating and proving the level of **efficacy and safety of an experimental drug**.

- In **economics**, Randomised Controlled Trials (RCTs) mean breaking the problem into small parts and experimenting with solutions to obtain reliable answers about the most effective ways to combat global poverty.
- Rather than focussing on big-picture questions, they **divide** the **issue** into **smaller, more manageable and measurable issues**.
- Nobel prize winners **Abhijit Banerjee, Esther Duflo and Michael Kremer** are conducting experiments in more than 80 countries to find out solutions in sectors like **health, education, agriculture**, etc.
- They showed that **these smaller questions could be best answered through carefully designed experiments among the people who are most affected**.
- As a result of their work, a large number of concrete results on specific mechanisms behind poverty and specific interventions to alleviate it have been developed.
- Some of their experiments are as given below.

Health:

- Mr. Banerjee and Ms. Duflo carried out their experiments in Rajasthan some years ago in the health sector.
- Despite immunisation being free, women were not bringing in their children for the vaccination shot. The two MIT economists decided to give a bag of pulses free to women who brought their babies for vaccination. Word soon spread and the rate of immunisation shot up in the region.

Education:

- Another experiment of Abhijit and Duflo was in Mumbai and Vadodara to understand learning outcomes in the field of education. Was it **lack of access to textbooks** or **hunger that caused poor learning outcomes**? Through field studies, Mr. Banerjee and Ms. Duflo established that the problem is that teaching is not adapted to the needs of the students. Learning outcomes improved in schools that were provided with teaching assistants to support students with special needs.

Agriculture:

- **Michael Kremer's** non-profit advisory service has helped **six lakh farmers** in Gujarat, Karnataka, and Orissa.
- A helpline was provided for real-time expert advice on sowing and irrigation decisions and inputs such as seeds, fertilizers and pesticides. This initiative led to increase in the yields by 28% for those producing cumin and 8.6% for those growing cotton in Gujarat.

Relevance of their Work to Governments:

- Governments across the world, including in India, spend big money on social schemes without proper ideas on whether their objectives have been met. The field-work based approach that these economists have adopted has revolutionised the field of development economics and made it more relevant in policy making.

Poverty Action Lab:

- In **2003** Abhijit Banerjee and Esther Duflo, along with Sendhil Mullainathan founded the 'Poverty Action Lab' at the Department of Economics in Massachusetts Institute of Technology (MIT), USA with the goal of transforming how the world approaches the challenges of global poverty.
- In **2005** the lab was renamed as **Abdul Latif Jameel Poverty Action Lab (J-PAL)** in honor of **Abdul Latif Jameel** after he got substantial funding commitment from the company set up by him i.e Abdul Latif Jameel company. It is a diversified business company founded in Saudi Arabia in 1945.

Mohammed Abdul Latif Jameel, MIT alumnus, philanthropist, and son of Abdul Latif Jameel, committed a substantial gift for the Poverty Action Lab in the Department of Economics in memory of his father Abdul Latif Jameel. The gift endowed a professorship, two fellowships, and a research and teaching fund, all in the areas of poverty alleviation and development economics.

- Today, **Abdul Latif Jameel Poverty Action Lab's (J-PAL)** core staff includes more than 400 research, policy, education, and training professionals across seven offices worldwide.
- It is also supported by a network of 194 affiliated professors at universities around the world who are working to reduce poverty by ensuring that policies of Governments are informed by scientific evidence.
- Their experiment-based approach has transformed development economics which is now a flourishing field of research.

Additional Information:**About Nobel Prize in Economics:**

- Nobel Prize in economics was not created by the prize founder Alfred Nobel. In his 'will' written in 1895, Alfred Nobel stated that awards should be given to contributions made in the fields of Physics, Chemistry, Physiology or Medicine, Literature and Peace. The first Nobel Prizes were given in 1901.
- In 1968, **Sveriges Riksbank** (Sweden's central bank) established the Prize in Economic Sciences in Memory of Alfred Nobel, founder of the Nobel Prize on the occasion of the Bank's 300th anniversary.
- The prize, officially known as the '**Bank of Sweden Prize in Economic Sciences In Memory Of Alfred Nobel**'.
- The first Prize in Economic Sciences was awarded to Ragnar Frisch and Jan Tinbergen in 1969.

RC REDDY IAS STUDY CIRCLE

NATIONAL POLITY

Privacy:

Whats App Security Breach Raises Concerns over Privacy

- In October 2019, WhatsApp, a popular social media application for messaging, voice and video calls, filed a case in U.S against **Israeli Cyber Security firm 'NSO Group'** for violating its 'terms of use' and gained unauthorised and illegal access to its servers and communication service.
- It accused the 'NSO Group' of causing damage to its reputation and also monetary costs in fixing the security breach.
- The 'NSO Group' has developed a **spyware** called '**Pegasus**' for **targeted surveillance** through **WhatsApp**.
- Spyware is a software developed for the purpose of spying.
- NSO Group, an Israeli Cyber Security firm, was founded in 2010 by **Nib Carmi**, **Shalev Hulio** and **Omri Lavie**. Hence, it has been named as NSO by taking the one alphabet each from their names.

How the Spyware Works?

- WhatsApp follows end-to-end encryption which means the communication between the sender and receiver is fully secured and no third party can access it. This is meant to ensure 'privacy' of communication for the users.
- But, the spyware 'Pegasus' developed by 'NSO Group' enables targeted surveillance. The Spyware can be sent to the targeted person through a WhatsApp video call. The spyware is developed in such a way that the targeted person need not attend the call. The spyware enters cell phone of the targeted person through the WhatsApp video call even though it is unanswered.
- Once it enters the cell phone of the targeted person, it takes control of the device. It can read all the messages (not just WhatsApp messages), e-mails, contacts, call history, collect passwords, trace the location of phone, calendar, internet browsing history, etc.
- Between January 2018 and May 2019, the 'NSO Group' created WhatsApp accounts using numbers registered in different countries like Israel, Brazil, Indonesia, Sweden, Netherlands, Cyprus, etc. These accounts were used to send the spyware to targeted persons.
- WhatsApp in its case filed in the U.S court stated that the spyware has been used by the law enforcement agencies of various countries as well as private entities.

Who were Targeted?

- Around 1400 accounts were targeted globally mainly, human rights activists, journalists, political dissidents, lawyers, and academics.
- In India the targeted persons include **Bela Bhatia**, chhattisgarh based human rights activist, Ankit Grewal, lawyer who represented activist Sudha Bharadwaj in Elgar Parishad case, academician **Anand Teltumbde** accused in Elgar Parishad case, **Vivek Sundara**, Mumbai-based social and environmental activist, **Nihal Singh Rathod**, Nagpur-based human rights lawyer, **Degree Prasad Chauhan**, Chhattisgarh based dalit rights activist and **Shubhranshu Choudhary**, former BBC journalist.
- This security breach happened in May 2019 and WhatsApp released a security patch through an update on May 13, 2019 to deny access to the spyware.

Stand of 'NSO Group'?

1. However, the cyber security firm 'NSO Group' stated that its spyware '**Pegasus**' is only provided to Government intelligence and law enforcement agencies to help them fight terrorism and serious crimes and is not intended to use against human rights activists and journalists.
2. Giving the reasons for development of spyware, the cyber security firm stated that strongly encrypted platforms are used by terrorists, drug traffickers, pedophile gangs, etc.

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3. It stated that without sophisticated technologies, law enforcement agencies which are responsible for keeping the society safe will face insurmountable hurdles. It stated that technologies developed by it provide lawful solutions to the crimes faced by law enforcement agencies.
 4. It also stated that the spyware developed by it is essentially meant to protect human lives and control crime and use of spyware for purposes other than preventing terrorism and crime is a misuse.

Criticism Against Union Government of India:

1. The Government has been accused of snooping on targeted individuals as those targeted in India by the spyware were human rights activists, dalit activists, lawyers and academicians. Hence, the Government has come under the criticism.
2. Moreover, the spyware is also expensive which only Governments can afford.

Stand of Union Government:

- However, the Union Government denied authorising surveillance of activists, journalists, lawyers and academicians.
- It expressed concern over the breach of privacy of Indian citizens and asked the WhatsApp to explain the measures being taken by it to ensure confidentiality of communication of Indian users.

Need for Privacy Law:

- The breach of privacy in the WhatsApp service once again raised the concerns over individual privacy and the need to protect the same.
- The Supreme Court has already recognised 'privacy' as a fundamental right.
- At present, there is unprecedented personal data collection both by the Government and private entities in our country. However, there is still no 'personal data protection law' in our country to safeguard personal data.
- Hence, a strong 'personal data protection legislation' is required to ensure protection of privacy of individual citizens. Such a legislation should also make state surveillance (of citizens) accountable by bringing them under judicial oversight.

SOCIAL SECTOR:

EDUCATION:

IIT Delhi Launches 'Endowment Fund'

- On October 31, 2019, President Ram Nath Kovind unveiled IIT Delhi's 'Endowment Fund' with an initial commitment of Rs. 250 crore from nearly 20 corporate leaders and alumni of the institution.

About Endowment Fund:

- Globally endowment funds are a big source of income for top global universities.
- Harvard University has an endowment corpus of over \$39 billion and Stanford has an endowment corpus of \$28 billion.
- Alumni of the institute contribute to these endowment funds.
- **Interest** earned from the endowment fund is used for providing **scholarships** to the students, research, and **development** works in the institutes.
- Endowment fund is managed by an alumni board.

President Ram Nath Kovind stated that through endowments, alumni are not just giving funds to their institution but they are also supporting and nurturing future generations of learners.

About Delhi IIT Endowment Fund:

- Delhi IIT has set a target of raising Rs. 1000 crores by 2020 and take it Rs. 7000 crore by 2025.
- IIT Delhi has an alumni base of over 52,000 in India and abroad.
- Over the past fifteen years, IIT Delhi alumni have set up highest number of successful startup ventures in India and have cumulatively raised a capital of USD 14 billion.
- Today, all IIT-ians put together are the fourth-largest producers of unicorn start-ups in the world, after Stanford, Harvard and University of California.
- IIT Delhi alumni is leading among the IITs in India by creating 14 out of 24 Indian unicorn.
- A unicorn is a start up which has achieved a valuation of US \$ one billion. Aileen Lee, a venture capitalist and the founder of Cowboy Ventures (CowboyVC), coined the term 'unicorn'.

Initial Contributions:

- At the launch of the fund on October 31, 2019, nearly 20 corporate leaders and alumni of the institution committed 250 crore. Nearly half of this amount is committed by Flipkart, an e-commerce website, co-founders Binny Bansal and Sachin Bansal.

Among others who contributed more than Rs. 10 crore each includes Sandeep Singhal, co-founder of WestBridge Capital; Kavita Iyer, trustee of Singhal Iyer Family Foundation; Arun Duggal, director, ICRA, and Vikram Gupta, Founder and Managing Partner of IvyCap Ventures. Sashi Reddi, founder of SRI Capital, Amar Sawhney, President of I-Therapeutix Inc and Ranu Vohra, co-founder of Avendus Capital were among others who contributed to the endowment corpus.

'Each One Teach One' Scheme:

- Delhi IIT also announced that it would launch 'Each One Teach One' initiative, under which alumni are being invited to support education of one student per year costing up to \$10,000. Alumni, wealthy individuals and corporates can contribute to this initiative.

SOCIAL ISSUES:

National Unity Day:

National Unity Day Observed

- 'Rashtriya Ekta Diwas', also called the 'National Unity Day', is celebrated on October 31st every year on the occasion of the birth anniversary of Sardar Vallabhbhai Patel, the first Home Minister of India who played an important role in India's struggle for independence, and later during the integration of the country.
- He is credited for the merger of over 560 princely states into the Union of India. He is known as the 'Iron Man of India'.
- Prime Minister Narendra Modi addressed a gathering of over 430 Civil Service Probationers at the Statue of Unity, Kewadiya, Gujarat on the occasion of the Rashtriya Ekta Diwas on October 31, 2019.
- The Prime Minister stated that people of India will remain indebted to him forever for his leadership during the freedom struggle and his vision, wisdom and statesmanship in the post-independence era.
- He also said that it was the vision of Sardar Vallabhbhai Patel to make Civil Services an important tool in the nation building. Sardar Vallabhbhai Patel played a stellar role in strengthening Indian Civil Services.

About the Statue of Unity:

- Statue of Unity, which is a statue in honour of Sardar Vallabhbhai Patel, was inaugurated in in 2018 by Prime Minister Narendra Modi.
- It is on the banks of the Narmada river near at Kevadia, Rajpipla district, Gujarat .
- The statue is 182 metres high, making it the **tallest in the world**. The statue was built at a cost of Rs 2,989 crore.

SC's & ST's:

Supreme Court Recalls Its Verdict on SC/ST (Prevention of Atrocities) Act of 1989

- On October 1, 2019, the three judge bench of the Supreme Court recalled its March 20, 2018 verdict on Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act of 1989.

2018 March Verdict of the Supreme Court:

- In March 2018, a two judge bench of the Supreme Court **diluted the provisions** of the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act of 1989.
- The judgement provided for
 - a) grant of anticipatory bail to accused persons, and
 - b) directed that the police should conduct a preliminary enquiry on whether complaint under the 1989 law is "frivolous or motivated" before registering a case.
- Both the above directions were not part of the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act of 1989.

Reasons given for dilution of the provisions:

- The provisions SC/ST (Prevention of Atrocities) Act of 1989 are being misused by the members of the Scheduled Castes and Scheduled Tribes to lodge false complaints.
- These provisions are also leading to the arrest of innocent persons.

Centre Files Review Petition:

- The March 20, 2018 judgment had triggered widespread protests and violence and compelled the government to amend the Act to negate the effect of the apex court ruling. The Centre also filed a review petition against the judgment.

In its review petition, the Centre presented the following arguments calling for restoration of original provisions in the Scheduled Castes and Scheduled Tribes (SC/ST) use the 1989

1. There was no decrease in the atrocities committed on members of SC/ST communities, despite the laws meant to protect their civil rights.
2. The SC/ST (Prevention of Atrocities) Act of 1989 is the least which the country owes to this section of the society, who have been denied several civil rights for generations and have been subjected to indignities, humiliations and harassment.

October 1, 2019 Judgement:

On October 1, 2019, the three judge bench of the Supreme Court of Justices Arun Mishra, M.R. Shah and B.R. Gavai recalled the 2018 March verdict on the following grounds.

1. Continuing Discrimination:

The **struggle of SC/ST people for equality is still not over** and they **still face untouchability, abuse** and are **socially outcast**.

They are subjected to "discrimination" and "untouchability" even after over 70 years of Independence.

Even now, Governments have not been able to provide scavengers mainly Scheduled Castes with modern methods of scavenging due to lack of resources and proper planning and apathy.

2. Misuse a human Failure:

Human failing and not caste is the reason behind the lodging of false criminal complaints.

3. Entire Community can not be Blamed for Misuse:

- It was against “basic human dignity” to treat all SC/ST community members as “a liar or crook.” Caste of a person cannot be a cause for lodging a false report. Even a general category person can file a false FIR. Moreover, members of the Scheduled Castes and Scheduled Tribes, due to backwardness, cannot even muster the courage to lodge an FIR, much less, a false one.

4. Against the Spirit of the Constitution:

The Supreme Court should not have exercised its plenary power (absolute power). These directions under the March 20, 2018 judgement were impermissible under the Constitution. The Constitution provides for protection of SC/ST people under Article 15 but they still face social abuse and discrimination. Hence, the Law can not be diluted by the Supreme Court.

Sanitation:

Rural India Declared Open Defecation-free

- On October 2, 2019, Prime Minister Narendra Modi announced that rural India (villages in India) as open defecation free. Urban India is yet to become open defecation free due to slow progress in states like Uttar Pradesh, Bihar, Odisha, Goa and West Bengal.
- The Prime Minister made this announcement at Sabarmati Ashram in Gujarat. (Mahatma Gandhi established Sabarmati Ashram in 1917 after his return from South Africa, and lived there till 1930. He embarked on the famous Dandi March from the Ashram in 1930, saying he will return to the place only after India gained independence.)
- October 2nd of every year, which is the birthday of Mahatma Gandhi, is observed as Swachh Bharat Diwas.
- 2019 is celebrated as the 150th birth anniversary of Mahatma Gandhi.
- The prime minister stated that 99 per cent of rural India was open defecation free. **Over 11 crore toilets have been built in rural India** benefitting 60 crore people in 60 months (2014-2019).
Exactly, five year ago, on this day (October 2, 2014), Swachh Bharat Mission was launched with the intent to make India open defecation free.
- Prime Minister added that this achievement was merely a step towards realising the dream of developed India and the government plans to implement several such projects to ensure **sanitation and clean drinking water**.
- He stated that **hygiene, environment and animal protection** were three main concerns of Mahatma Gandhi and plastic is harmful to all three. Hence, by 2022, we have to make India free of **single-use plastic**, the Prime Minister stated.

Additional Information:

Definition of Open Defecation Free (ODF):

ODF is the termination of faecal-oral transmission, defined by:

- **No visible faeces** found in the environment/village; and
- **Every household** as well as **public/community institutions** using safe technology option for disposal of faeces

Safe technology option means no contamination of surface soil, ground water or surface water; excreta inaccessible to flies and animals.

Hunger:

India Ranked 102nd in Global Hunger Index

- India has been ranked 102 out of 117 countries in the 2019 Global Hunger Index (GHI) released in October 2019 by Concern Worldwide', a non-governmental organisation based in U.S. and Welthungerhilfe, one of the largest private aid organisations in Germany.
- India suffers from a level of hunger that is serious.
- In the Global Hunger Index (GHI), countries are given rank and also category of the hunger in the country.

How the Countries are categorised?

- On GHI Severity scale from 0 to 100.
 - < 9.9 low
 - 10.0–19.9 moderate
 - 20.0–34.9 serious
 - 35.0–49.9 alarming
 - >50.0 extremely alarming

About Global Hunger Index (GHI):

- The Global Hunger Index (GHI) is an international tool designed to comprehensively measure and track hunger at global, regional, and national levels.
- GHI scores are calculated each year to assess progress and setbacks in combating hunger.
- GHI scores help raise awareness and understanding of the struggle against hunger and provide a way to compare levels of hunger among countries.

The GHI is based on four indicators:

1. **Undernourishment:** the share of the population that is undernourished (insufficient caloric intake)
2. **Child wasting:** the share of children under the age of five who are wasted (low weight for their height, reflecting acute undernutrition)
3. **Child stunting:** the share of children under the age of five who are stunted (low height for their age, reflecting chronic undernutrition)
4. **Child mortality:** the mortality rate of children under the age of five (in part, a reflection of the fatal mix of inadequate nutrition and unhealthy environment).

Data on the above indicators are mainly obtained from United Nations agencies such as the Food and Agriculture Organisation, the United Nations Children's Fund (Unicef) and the World Health Organisation (WHO) along with the World Bank

- Second, each of the four component indicators is given a standardized score on a 100-point scale.
- Third, standardized scores are aggregated to calculate the GHI score for each country.
- This three-step process results in GHI scores on a 100-point GHI Severity Scale, where 0 is the best score (no hunger) and 100 is the worst. In practice, neither of these extremes is reached.

A value of 0 would mean that a country had no undernourished people in the population, no children younger than five who were wasted or stunted, and no children who died before their fifth birthday.

A value of 100 would signify that a country's undernourishment, child wasting, child stunting, and child mortality levels were each at approximately the highest levels observed worldwide in recent decades.

- GHI scores were not calculated for countries for which data were not available and for certain high-income countries, countries with small populations.

Countries with poor performance in Global Hunger Index:

Countries are ranked on the basis of hunger level i.e those with low hunger to those with high hunger.

Countries with High Hunger Rank

Central African Republic	117
Yemen	116
Chad	115
Madagascar	114
Zambia	113

India and Its Neighbours

<u>Country</u>	<u>Rank</u>
China	25
Sri Lanka	66
Nepal	73
Bangladesh	88
Pakistan	94
India	102

Crime in India:

'Crime in India Report 2017' Released

- After a delay of two years, the 'Crime in India Report 2017' was published by the National Crime Records Bureau (NCRB)) on October 21, 2019. Total crimes in the country increased from 29,75,711 in 2016 to 30,62,579 in 2017.

Highlights of Report:

1. Crimes against Women:

3,59,849 cases of crime against women were reported in the country in 2017 as against 3,38,954 in 2016.

Uttar Pradesh topped the list with 56,011 cases followed by Maharashtra with 31,979 cases and West Bengal 30,002.

Majority of cases under crimes against women were registered under 'Cruelty by Husband or his Relatives' (27.9%) followed by 'Assault on Women with Intent to Outrage her Modesty' (21.7%), 'Kidnapping & Abduction of Women' (20.5%) and 'Rape' (7.0%).

At the national level, the rate of crime against women also increased to 57.9 incidents per lakh of female population from 55.2 in the previous year.

The conviction rate for crimes against women (cases convicted as percentage of total cases where trial was completed) was 24.5% in India in the year 2017. For Delhi, it was 35%. Gujarat and West Bengal were the worst performers, with conviction rates of 3.1% and 3.2%.

2. Rapes:

Rapes against women decreased from 38,947 in 2016 to 32,559 in 2017. Out of this, 10,221 were girl/child victims.

3. Murder cases: Murder cases registered across the country in 2017 declined by almost 6% to 28,653 from 30,450 cases in 2016,

4. Rioting: 58,880 incidents of rioting were reported, of which the maximum incidents were reported from Bihar - 11,698, followed by Uttar Pradesh - 8,990 and Maharashtra - 7,743.

Of the total riots reported, communal and sectarian riots accounted for 723 and 183 incidents respectively. There were 805 riots due to caste conflict and 1909 riots occurred due to political reasons.

5. **Cases under SC/ST Atrocities (Prevention) Act:** The incidents registered under the Scheduled Caste Prevention of Atrocities Act saw an increase from 5,082 incidents reported in 2016 to 5,775 in 2017. Incidents registered under to Scheduled Tribes Prevention of Atrocities Act dipped from 844 in 2016 to 720 in 2017.
6. **Kidnapping:** A total of 95,893 cases of kidnapping and abduction were registered during 2017, showing an increase of 9.0% over 2016 (88,008 cases).
7. **Missing Cases:** A total of 63,349 children (20,555 male, 42,691 female and 103 transgender) were reported missing in 2017. During the year 2017, a total of 70,440 children (23,564 males, 46,798 females and 78 transgender) were recovered/traced.
8. **False/Fake News and Rumours:** The NCRB for the first time collected data on circulation of “false/ fake news and rumours.”

Under the category, maximum incidents were reported from Madhya Pradesh (138), Uttar Pradesh (32) and Kerala (18).

9. **Cyber crimes:**

The number of cyber crimes increased dramatically in 2017 as compared to 2016, and nearly every fifth cyber crime in 2017 was committed against a woman.

A total 21,796 instances of cyber crime were recorded in 2017, an increase of 77% over the previous year's number of 12,317.

More than half the incidents of cyber crime in 2017 were motivated by fraud (12,213 out of 21,796 cases) followed by sexual exploitation with 6.7 per cent (1,460 cases) and causing disrepute with 4.6 per cent (1,002 cases).

Two hundred and six cases of cyber crime were registered for inciting hate against the country, and 139 were committed with political motives. One hundred and ten cyber crimes were related to terrorist activities.

Countrywide, the rate of cyber crime - that is, the number of cyber crimes committed per 1,00,000 population - in 2017 was 1.7.

In absolute numbers, UP, the most populous state, registered the largest number of cyber crimes (4,971), followed by Maharashtra (3,604), and Karnataka (3,174). Among the Union Territories, the most cyber crimes in 2017 were registered in Delhi (162)

Criticism about 'Crime in India Report':

The publishing of annual data after a gap of two years (2017 data published in 2019) by the Government has come under criticism for the following reasons.

- The annual data relating to various crimes and incidents, released by the NCRB, is the **only source of authentic and reliable data in the country.**
- This data is of immense importance to the police, government, civil society for tracing the crime map of the country, studying its implications, and charting out the future course of action. Inordinate delay in publishing the annual data leads to **information gap.**
- **In the absence of timely data,** informed debates on the various types of crime in the country and timely policy responses to them would not be possible.
- Moreover, data was collected under the new sub-heads of death due to **mob lynching, murder by influential people, killing ordered by khap panchayat and murder committed for religious reason** but not published. Such data would have helped the government for better formulation of policies to tackle these crimes.

STATES & UNION TERRITORIES

Haryana State Elections:

BJP Forms Coalition Government in Haryana

- The ruling **Bharatiya Janata Party (BJP)** failed to secure majority in the **Haryana** State Assembly elections held in October 2019 but emerged as the **single largest party by securing 40 seats in the 90-member Haryana Legislative Assembly.**

Seats secured by Political Parties at a Glance:

<u>Party</u>	<u>Seats</u>
Bharatiya Janata Party	40
Indian National Congress	31
Jannayak Janta Party	10
Indian National Lok Dal	1
Haryana Lokhit Party	1
Independents	7
Total	90

Details:

- The **Bharatiya Janata Party (BJP)** party fell short of majority by 6 seats.
- **Jannayak Janta Party (JJP)**, led by Dushyant Chautala, the grandson of former Chief Minister of Haryana Mr. Om Prakash Chautala, emerged as the kingmaker with 10 seats. Dushyant Chautala formed Jannayak Janta Party (JJP) after breaking away from the Indian National Lok Dal (INLD) set up by his grandfather Mr. Om Prakash Chautala. The party has support from the dominant 'Jats' community.
- The BJP's performance came as a disappointment for a party which had won all 10 parliamentary seats in the Lok Sabha polls earlier this year (May 2019) and predicted that it will cross 75 seats this time in the legislative assembly. Surprisingly, eight of the 10 ministers fielded by the BJP lost. BJP had won 47 seats in the 90-member assembly in 2014.
- **Congress won 31 seats in 2019, more than double of the 15 it did in 2014.** Indian National Lok Dal (INLD) won in just one seat as its support base, mainly Jats, has shifted to Jannayak Janta Party (JJP).
- The **BJP ran a campaign around nationalism**, citing its achievements like **abolition of the provisions of Article 370** which granted special status to **Jammu and Kashmir**, a **National Register of Citizens (NRC)** for the entire country to find out illegal migrants, etc.
- But, **local issues** like **caste, regional leadership, unemployment**, etc. **determined the final outcome** of the elections.

Particularly, the **Jats** who constitute around 28 per cent of state population and dominate the politics of Haryana, and **Dalits who constitute 30 of the population, voted for the Congress** and the **Jannayak Janata Party**, a breakaway faction of the Indian National Lok Dal.

BJP Forms Government in Alliance with Jannayak Janta Party (JJP):

- The Bharatiya Janata Party (BJP) formed a coalition government along with Jannayak Janta Party (JJP).
- **Manohar Lal Khattar** was sworn in as **Chief Minister** while **Dushyant Chautala** of **Jannayak Janta Party (JJP)** was made **deputy Chief Minister.**

Maharashtra State Elections:

BJP and Shiv Sena Alliance Secures Majority in Maharashtra Assembly Elections

- The Alliance of Bharatiya Janata Party (BJP), Shiv Sena and other smaller parties secured majority by winning 161 seats in the elections to the 288-member Maharashtra assembly held in October 2019. The BJP on its own secured 105 seats while Shiv Sena secured 56 seats. 145 seats are needed to form the Government.
- But, the Government formation was delayed to differences between the two major partners in the Alliance; BJP and Shiv Sena over sharing of power. Shiv Sena claimed that prior to the elections, BJP has agreed to share power on 50:50 basis including the position of Chief Minister while BJP denies giving any such assurance.

Seats Secured by Political Parties:

<u>Party</u>	<u>Seats</u>
Bharatiya Janata Party	105
Shiv Sena	56
Nationalist Congress Party (NCP)	54
Indian National Congress	44
Independents	13
Bahujan Vikas Aaghadi	3
Samajwadi Party	2
Prahar Janshakti Party	2
All India Majlis-E-Ittehadul Muslimeen	2
Communist Party of India (Marxist)	1
Jan Surajya Shakti	1
Krantikari Shetkari Party	1
Maharashtra Navnirman Sena	1
Peasants And Workers Party of India	1
Rashtriya Samaj Paksha	1
Swabhimani Paksha	1
Total	288

Analysis of Result:

- The alliance of BJP, Shiv Sena and other smaller parties secured 41 out of 48 seats in Maharashtra in the parliamentary elections held in May 2019. Hence, there was expectation that the Alliance would get sweeping majority. In fact, the Alliance kept a target of 220 plus seats in the elections. But the actual seats for the BJP Alliance stood at 161. The BJP secured 105 seats which is lesser than 122 it secured in 2014 when it contested without Alliance with Shiv Sena.
- Like in Haryana, the BJP ran the election campaign around Nationalism, particularly abolition of the provisions of Article 370 which granted special status to Jammu and Kashmir, strikes against terrorist camps in Pakistan, etc. Economy and livelihood issues were relegated.
- The BJP also engineered defections from NCP and Congress Party before the elections. Cases were filed by Enforcement Directorate (ED) against Sharad Pawar.
- But, the **BJP and Shiv Sena secured less seats when compared with 2014. They had 185 seats in 2014 compared to 161 at present.**
- Issues like **caste, unemployment and farm crisis determined the outcome of elections.** The alliance **won just 87 of the 189 rural seats which highlights dissatisfaction among rural voters.**

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- The **main opposition parties Congress and NCP improved their performance by winning 98 seats compared to 83 seats in 2014 election.** The Marathas votebank shifted to NCP unlike in General elections during which they voted for BJP-Shiv Sena.
 - Sharad Pawar **raised the issues of agricultural distress, unemployment and government's reported apathy for the rural areas.**
 - **Filing of cases against maratha leaders like Sharad Pawar and engineering defections** from the congress and NCP parties also did not go well with the public and worked against the ruling BJP-Shiv Sena Alliance.

Two New Union Territories:

Two New Union Territories (Jammu & Kashmir and Ladakh) Come into Existence

- The two union territories Ladakh and Jammu and Kashmir came into existence on October 31, 2019 as per Jammu and Kashmir (J&K) Reorganisation Act 2019.
October 31, 2019 is celebrated as 'National Unity Day' to mark the birth anniversary of the country's first Home Minister of India Sardar Vallabhbhai Patel, who is credited for the merger of over 560 princely states into the Union of India.
- The Jammu and Kashmir (J&K) Reorganisation Act 2019 was enacted on August 6, 2019 after repealing the provisions of Article 370 which gave it a special status like having its own constitution, Flag, Penal Code, etc.
- According to the Jammu and Kashmir Reorganisation Act, 2019, Jammu nad Kashmir was split into two Union Territories namey
 - (i) Union Territory of Jammu and Kashmir with a legislature, and
 - (ii) Union Territory of Ladakh without a legislature.
- The Union Territory of Ladakh comprises of Kargil and Leh districts, and the Union Territory of Jammu and Kashmir comprises of the remaining territories of the existing state of Jammu and Kashmir.
- This is for the first time in the history of India that a state has been converted into two Union Territories.
- The total number of **states** in the country will now be **28**, while the total **Union Territories (UTs)** will go up to **9**.

Other Details:

- The UT of Jammu and Kashmir will have a legislature like Puducherry while Ladakh will be a UT without legislature like Chandigarh and both the UTs will be headed by two separate lieutenant governors (LG).
- The Centre will have **direct control of the police** and the **law and order in Jammu and Kashmir** , while the land will be under the elected government.
- Girish Chandra Murmu sworn in as the first lieutenant governor of the Union Territory of Jammu and Kashmir. Murmu is a 1985 batch IAS officer of Gujarat cadre. Prior to his appointment, he was working as Expenditure Secretary in the Ministry of Finance.
- Radha Krishna Mathur was sworn-in as the first Lt Governor of Union Territory of Ladakh on October 31, 2019. His oath was administered by Jammu and Kashmir High Court Chief Justice Geeta Mittal. Radha Krishna Muthur is a retired 1977 batch Indian Administrative Service (IAS) officer of Tripura cadre. He retired as the Chief Information Commissioner of India (CIC) in November 2018.

Centre to Have Authority to Declare Any Area as 'Disturbed' Under AFSPA:

- The Union Ministry of Home Affairs (MHA) will be the authority on deciding the imposition of Armed Forces Special Powers Act (AFSPA), 1990 in the Union Territories of Jammu and Kashmir (J&K) and Ladakh.
- Armed Forces Special Powers Act (AFSPA) empowers security forces to conduct operations anywhere and arrest anyone without a warrant. It is in force in J&K since July 5,1990.
- Till the bifurcation of the Jammu and Kashmir , the state government through district magistrates were empowered to declare a particular district or police station area "disturbed" under the AFSPA

FOREIGN RELATIONS

China-India:

Second Informal Summit between Chinese President Xi Jinping and Prime Minister Narendra Modi

- 2nd India-China Informal Summit was held on October 11 and 12, 2019 in Mamallapuram (also called Mahabalipuram) near Chennai, India.
- Prime Minister of India Mr. Narendra Modi and the President of the People's Republic of China Mr Xi Jinping had an in-depth exchange of views on overarching, **long-term and strategic issues of global and regional importance.**
- They also evaluated the **direction of bilateral relations** and discussed **how India-China bilateral interaction can be deepened** to reflect the growing role of both countries on the global stage.

1. Managing Differences:

- They reiterated the consensus reached during the **first Informal Summit in Wuhan, China in April 2018**, that **India and China are factors for stability** in the current international landscape and that both sides will **prudently manage their differences** and **not allow differences on any issue to become disputes.**

2. Enhancing Communication on All Matters of Mutual Interest:

- The two Leaders shared their **mutual vision on goals for development of their respective economies.** They agreed that the **simultaneous development of India and China presents mutually-beneficial opportunities.**

The two sides will continue to **adopt a positive, pragmatic and open attitude** and to **enhance appreciation of each other's policies and actions** in line with the general direction of their friendship and cooperation. In this regard, they also agreed to **continue to enhance strategic communication on all matters of mutual interest**, and to continue the momentum of high-level exchanges by making full use of dialogue mechanisms.

3. Boundary Dispute:

- The two Leaders have exchanged views on **outstanding issues**, including on the **boundary question.** They have welcomed the work of the Special Representatives and urged them to **continue their efforts to arrive at a mutually-agreed framework for a fair, reasonable and mutually acceptable settlement** based on Political Parameters and Guiding Principles that were agreed by the two sides in 2005. They reiterated their understanding that efforts will continue to be made to ensure peace and tranquility in the border areas, and that both sides will continue to work on additional Confidence Building Measures in pursuit of this objective.

4. High-Level Economic and Trade Dialogue Mechanism:

In pursuit of their efforts to further **deepen economic cooperation** and **to enhance their closer development partnership**, the two Leaders have decided to establish **a High-Level Economic and Trade Dialogue mechanism** with the objective of achieving enhanced trade and commercial relations, as well as to better balance the trade between the two countries. They have also agreed to encourage mutual investments in identified sectors through the development of a Manufacturing Partnership.

5. Working for a Peaceful, Secure and Prosperous World:

- Both Leaders shared the view that the international situation is witnessing significant readjustment. They were of the view that **India and China share the common objective of working for a peaceful, secure and prosperous world** in which all countries can pursue their development within a rules-based international order.

6. Preserving and Advancing a Rules-based and Inclusive International Order:

- The Leaders recognized that India and China have **a common interest in preserving and advancing a rules-based and inclusive international order**, including through reforms that reflect the new

realities of the 21st Century. Both agreed that it is important to support and strengthen the rules-based multilateral trading system at a time when globally agreed trade practices and norms are being selectively questioned. India and China will continue to work together for open and inclusive trade arrangements that will benefit all countries.

7. Addressing Global Developmental Challenges:

- Both Leaders also underscored the important efforts being made in their respective countries to address global developmental challenges, including **climate change** and the **Sustainable Development Goals**. They emphasized that their individual efforts in this regard would help the international community achieve the targets.

8. Terrorism:

- Both Leaders are concerned that terrorism continues to pose a common threat. As countries that are large and diverse, they recognized the importance of continuing to make joint efforts to ensure that the international community **strengthens the framework against training, financing and supporting terrorist groups throughout the world and on a non-discriminatory basis**.

9. Enhancing Dialogue to Foster Cultural Understanding:

- As **important contemporary civilizations with great traditions**, both Leaders deemed it important to **enhance dialogue in order to foster cultural understanding between the two peoples**. Both Leaders also agreed that, as major civilizations in history, they can work together to enhance greater dialogue and understanding between cultures and civilizations in other parts of the world.

10. Regional Comprehensive Economic Partnership:

- They also agreed on the importance of concluding negotiations for a mutually-beneficial and balanced **Regional Comprehensive Economic Partnership**.

What is an informal summit?

- It is a summit at the highest level between the leaders of two nations without any predetermined formal agenda.
- Prime Minister Narendra Modi initiated the practice of informal summits in 2018.
- The first such summit with China was held in 2018 in Wuhan city in the backdrop of Doklam crisis. Doklam crisis is military border standoff between the Indian Armed Forces and the People's Liberation Army of China over Chinese construction of a road in Doklam which is a trijunction border area of India, Bhutan and China.
- India also held informal summit with Russia in 2018.

Utility of Informal Summits?

Informal Summits provide an important opportunity to **deepen dialogue** and **promote mutual understanding at the Leaders' level**.

These summits help the countries to

1. prudently manage their differences, and
2. advance cooperation by communicating each others positions on contentious issues.

For instance India and China have contentious issues like bilateral border dispute, trade deficit of India, China's support for Pakistan in international fora despite the latter's support to cross border terrorism against India, etc.

- Bilateral, regional and global issues are discussed in an informal atmosphere.
- Discussions on above issues in informal atmosphere leads to better appreciation of each other's countries stand and increase the chances of resolving the same.

How are Informal Summits different from Formal Summits?

- Formal summits are outcome driven like signing of agreements for cooperation in issues of mutual interest while informal summits are meant to serve the purpose of 'strategic communication' on issues of mutual interest and enhance the chances of resolving the same.

Indo-Bangladesh:

Bangladesh Prime Minister's Visit to India

Highlights:

Sheikh Hasina, Prime Minister of Bangladesh, paid an official visit to India on October 5, 2019 at the invitation of Prime Minister of India Mr. Narendra Modi. Both the Prime Ministers agreed to fully utilize various opportunities for advancing mutually beneficial partnership.

- The following three bilateral development partnership projects were inaugurated through video-link by the Leaders:
 - a) Import of Bulk LPG from Bangladesh to meet the requirements of Tripura.
 - b) Inauguration of Vivekananda Bhaban (students hostel) at Ramakrishna Mission, Dhaka, and
 - c) Inauguration of Bangladesh-India Professional Skill Development Institute (BIPSDI) at the Institution of Diploma Engineers Bangladesh (IDEB), Khulna.
- Agreements were also signed for providing a Coastal Surveillance System on the Bangladesh-India border, use of Chattogram and Mongla Ports for Movement of goods to and from India, withdrawal of 1.82 cusecs of water from Feni River by India for drinking water supply scheme for Tripura, etc.

Both the countries emphasized the importance of

- effective border management for ensuring a tranquil, stable and crime free border, and
- closer cooperation against extremist and radical groups, terrorists, smugglers, smuggling of fake currency, and organized crime remain a shared priority.

They also agreed to

- enhance cooperation in the area of Disaster Management,
- expedite commissioning of the Joint Study on the prospects of entering into a bilateral Comprehensive Economic Partnership Agreement (CEPA) between India and Bangladesh, and
- expedite establishment of twelve Border Haats (markets) to improve livelihoods of the people living along the remote border areas.

Bangladesh Prime Minister Hasina

- requested early signing and implementation of the Agreement for sharing of the Teesta waters between India and Bangladesh, and
- thanked India for undertaking various High Impact Community Development Projects (HICDPs) in Bangladesh as grant-in-aid projects.

Prime Minister Modi

- appreciated Bangladesh's generosity in sheltering and providing humanitarian assistance to forcibly displaced persons from the Rakhine State of Myanmar.

Details:

India and Bangladesh - A bond transcending strategic relationship

- The two Prime Ministers recalled the shared bonds of history, culture, language, secularism and other unique commonalities that characterize the partnership. They paid solemn tribute to the martyrs of the Liberation War.
- Prime Minister Modi also reaffirmed India's full support to the realization of Prime Minister Sheikh Hasina's vision of ensuring a **prosperous, peaceful and developed Bangladesh**.

Border Security and Management

- Both leaders emphasized the importance of effective border management for ensuring a tranquil, stable and crime free border. Towards this goal, the Leaders directed their respective border forces to complete border fencing at all pending sectors at the International Border between both the countries at the earliest.

Terrorism:

- Recognizing that terrorism remains one of the most significant threats to peace and stability of both countries and the region, the two Prime Ministers reiterated their strong commitment to eliminate terrorism in all its forms and manifestations, and stressed that there can be no justification whatsoever for any act of terror.
- Both the leaders agreed that closer cooperation against extremist and radical groups, terrorists, smugglers, smuggling of fake currency, and organized crime remain a shared priority.

Movement of People between the Two Countries:

- Both sides emphasized simplifying procedures for movement of people between the two countries.
- Prime Minister Sheikh Hasina thanked Prime Minister Modi for India's commitment to simplify travel requirements, for Bangladesh nationals traveling by road or rail to India, and asked that in the spirit of reciprocity, all restrictions be lifted for Bangladeshi travelers using existing land ports.
- The two sides agreed that the remaining restrictions on entry/ exit from land ports in India for citizens of Bangladesh travelling on valid documents would be removed in a phased manner, beginning with checkpoints at Akhaura (Tripura) and Ghojadanga (West Bengal).

Disaster Management:

- Both Leaders agreed to enhance cooperation in the area of Disaster Management. They welcomed the need for early completion of an MoU in the area of disaster management cooperation in a time-bound manner.

Towards a Win-Win Business Partnership:

- India welcomed Bangladesh's imminent graduation out of Least Developed Country (LDC) status.
- Both sides agreed to expedite commissioning of the Joint Study on the prospects of entering into a **bilateral Comprehensive Economic Partnership Agreement (CEPA)** between India and Bangladesh.
- In response to India's request to withdraw port restrictions on products being traded through Akhaura-Agartala port, Bangladesh informed that the restrictions will be removed on most items of regular trade in the near future.
- Bangladesh requested Indian authorities to consider addressing the issue of anti-dumping/anti-circumvention duties imposed on multiple products exported from Bangladesh to India, including jute products.
- Appreciating the positive impact of the border haats on the lives and livelihoods of the people living along the remote border areas, the leaders directed their officials to expedite establishment of twelve Border Haats which have been agreed to by both countries.

Continuation of Duty Free and Quota Free Access for Bangladeshi exports:

- Prime Minister Sheikh Hasina appreciated India's readiness to extend duty free and quota free access for Bangladeshi exports to the Indian market even after Bangladesh graduates out of Least Developed Country (LDC) status.
- As a step forward to promote collaboration between the textiles and jute sectors of both the countries, the Prime Ministers urged early finalization of the MoU between Ministry of Textiles, Government of India and Ministry of Textiles and Jute, Government of Bangladesh.

Sharing of Teesta River Water:

- Prime Minister Sheikh Hasina highlighted that the people of Bangladesh are awaiting early signing and implementation of the Framework of Interim Agreement for sharing of the Teesta waters, as agreed upon by both governments in 2011. Prime Minister Modi informed that his government is working with all stakeholders in India for conclusion of the Agreement as soon as possible.

Consolidating Development Cooperation

- Prime Minister Hasina thanked the Government of India for undertaking various High Impact Community Development Projects (HICDPs) in Bangladesh as grant-in-aid projects, as a contribution to taking socio-economic development to the grassroots of Bangladesh.

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- The two Prime Ministers expressed satisfaction over progress made in the utilization of the three Lines of Credit and directed the officials of both sides to expedite implementation of the projects initiated under these LoCs.

Displaced persons from the Rakhine state of Myanmar

- Prime Minister Modi appreciated Bangladesh's generosity in sheltering and providing humanitarian assistance to forcibly displaced persons from the Rakhine State of Myanmar.
- India will supply a fifth tranche of humanitarian assistance to support the Government of Bangladesh's humanitarian efforts to shelter the Rohingyas in temporary camps in Cox's Bazar.
- This tranche of aid will comprise tents, relief and rescue material as well as one thousand sewing machines for skill development of forcibly displaced women from Myanmar.
- In addition, India has completed a first project to build 250 houses in Rakhine state of Myanmar, and is now preparing to implement another set of socio-economic development projects in the area.
- Prime Minister Sheikh Hasina conveyed the gratitude for the humanitarian assistance provided by India to help meet the needs of the displaced persons from Myanmar.
- The two Prime Ministers agreed on the need to expedite safe, speedy and sustainable repatriation of the displaced persons to their homes in the Rakhine State of Myanmar. They agreed on the need for greater efforts to be made to facilitate their return, including by improving security situation and socio-economic conditions in the Rakhine State of Myanmar.

Partners in the Region and the World:

- The two Prime Ministers reaffirmed their commitment to work closely in the UN and other multilateral organisations. They also reaffirmed their commitment to work together particularly in the international arena, to call upon developed countries to fulfill their commitments on the means of implementation of sustainable development goals as enshrined in the Agenda 2030.

Indo-Saudi Arabia:

Prime Minister's Visit to Saudi Arabia

- Prime Minister Narendra Modi paid an official visit to the Kingdom of Saudi Arabia on October 29, 2019 at the invitation of the King of Saudi Arabia Mr. Salman bin Abdulaziz Al Saud.

Strategic Partnership Council:

- Both the Leaders decided to set up '**Strategic Partnership Council**' between the two countries. Strategic Partnership Council is a higher institutional mechanism at the level of Prime Minister of India and Crown Prince of Saudi Arabia which would monitor the progress in strategic partnership between both the countries. Strategic Partnership covering trade, investment, defence, security and people-to-people engagement will be reviewed every two years at the summit level.

Signing of Other Agreements:

- Agreements were also signed for cooperation in Energy, Civil Aviation, Security Cooperation, Defence, launch of RuPAY Cards in Saudi Arabia, etc.

Non-interference in the internal affairs of countries:

- Both the Leaders discussed regional and international issues of mutual interest, and reiterated their categorical rejection of all forms of interference in the internal affairs of countries, and the need for the international community to fulfill its responsibilities towards preventing any attacks on the sovereignty of States.

Securing Indian Ocean and the Gulf Region:

- Both sides agreed on the importance of bilateral engagement to promote ways to **ensure the security and safety of waterways in the Indian Ocean region and the Gulf region from the threat and dangers that may affect the interests of the two countries including their national security.**

Terrorism:

- The two sides stressed that the extremism and terrorism threaten all nations and societies. They **rejected any attempt to link this universal phenomenon to any particular race, religion or culture.**

Both sides rejected all terrorist acts and stressed the need to prevent access to weapons including missiles and drones to commit terrorist acts against other countries.

- India condemned the terrorist acts against civilian installations in the Saudi Arabia. Both sides called for closer cooperation in the United Nations Counter-Terrorism Center, and also agreed on strengthening cooperation in combating terrorist operations, exchange of information, capacity building and strengthening of cooperation in combating transnational crimes, within the framework of the existing bilateral security cooperation.

Trade and Investment:

- Both the Leaders noted the continued positive economic transformation in both countries and stressed the importance of expanding the **trade and investment** ties in order to advance the strategic cooperation.
- They urged the business communities in the two countries to utilize the investment opportunities in both countries, especially in the fields of **infrastructure, mining, energy including renewables, agriculture, technology transfer**, and in the areas of **skilled human resources in information technology, electronics and telecommunications**.

Future Investment Initiative Forum:

- Prime Minister Naarendra Modi also addressed the third 'Future Investment Initiative (FII) Forum' organized by the Kingdom's Sovereign Wealth Fund – The Public Investment Fund. The forum is also popularly referred to as the Davos in the Desert and is intended to project the Kingdom as the future investment hub in the region.
- The first two editions were held in 2017 and 2018. The FII session is organized under the 'Vision 2030' of Saudi Arabia which is a **blueprint for economic transformation of Saudi Arabia** through **diversification** of its **oil based economy**. Saudi Arabia also aims at working alongside global strategic partners and investment manager to achieve the Vision 2030.
- Under its Vision - 2030 Saudi Arabia has selected eight countries for forging strategic partnership. These include India, China, the UK, the United States, France, Germany, South Korea and Japan.

India- Saudi Arabia Relationship at a Glance:

Second Biggest Supplier of Crude Oil:

- Saudi Arabia is the second largest supplier of crude oil after Iraq.
- India imports around 18 per cent of its crude oil and 32% of LPG requirements of India from Saudi Arabia.
- Saudi Arabia sold 40.33 million tonnes of crude oil to India in 2018-19 fiscal, when the country had imported 207.3 million tonnes of crude oil.

Trade:

- India's bilateral trade with Saudi Arabia was at USD 27.48 billion in 2017-18, making Saudi Arabia its fourth largest trading partner.

Investments:

- In February 2019, Saudi Arabia Crown Prince Mohammed bin Salman, during his visit to India, announced that Saudi Arabia was looking at investing USD 100 billion in India in areas of energy, refining, petrochemicals, infrastructure, agriculture, minerals and mining.
- Saudi Aramco, Saudi Arabia's national oil company, along with United Arab Emirates' national oil company ADNOC has signed a deal with state-run companies in India for a 50% stake in a planned west coast refinery-cum-petrochemical project in Maharashtra.

Remittances:

- Saudi Arabia hosts a **2.6 million Indian community** which has been living in harmony and contributing to the development and progress of Saudi Arabia.
- Indians in Saudi Arabia send back remittances to the tune of **\$11 billion or more annually**.

SUMMITS

18th Summit of the Non-Aligned Movement Held in Baku, Azerbaijan

- The 18th Summit of the Non-Aligned Movement was held in the city of Baku in Azerbaijan, a Central Asian country which was part of erstwhile Soviet Union, from October 25 to 26, 2019. Vice-President Mr. M. Venkaiah Naidu represented India at the summit which was held under the theme "Upholding Bandung Principles to ensure concerted and adequate response to the challenges of the contemporary world".

NAM countries agreed to make joint efforts to achieve the **following objectives**.

- Enhance the status and role of the Movement in opposing war and supporting peace internationally;
- further coordinate Member States' positions in order to advance the interests of the developing world, build a fair, inclusive, transparent and effective system of global governance, based on justice and equitable participation of all countries, and address present challenges and risks stemming from global security threats, armed conflicts, environmental hazards, climate change, contagious diseases, extreme poverty, etc.;
- support multilateralism with the United Nations at its core and give a boost to the central role of the United Nations in the institutional and legal framework of global governance;
- reaffirm that all States shall respect the territorial integrity, sovereignty, the sovereign equality, political independence and inviolability of international borders of other States,
- strengthen NAM solidarity in combating terrorism in all its forms and manifestations,
- continue to work towards the full implementation of the 2030 Agenda for Sustainable Development, and
- reaffirm commitment to the promotion and protection of all human rights, in accordance with international commitments and domestic laws, which are universal and indivisible.

Vice President's Address:

- The Vice President stated that historically, **NAM has played an important role in promoting global peace and security, and in voicing the hopes and aspirations of nearly two-thirds of humanity.** It has **imparted political impetus and moral direction** to many important processes, including our **shared struggles to end colonisation and eliminate Apartheid.** If we are to remain relevant, **this tradition of independence must be defended** and nurtured so that we set our own agenda, the Vice President stated.
- The Vice President stated that **India has been a proud and integral part of this journey since the very beginning.** India fought shoulder to shoulder with NAM partners to secure a more equal and just world order for our peoples. We continue our unwavering commitment and solidarity for the Palestinian cause, the Vice President stated.
- The Vice President stated in the six decades since Bandung and Belgrade, however, the world has undergone a remarkable transformation. Today, we are **faced with serious challenges of an interdependent world. Globalisation and unprecedented technological advances** are shaping the **21st century in unpredictable and often disruptive ways.** As we all strive to ensure **inclusive and sustainable growth and a better future** for our peoples, we must realise that our destinies are linked like never before, the Vice President stated.
- The Vice President stated that the adoption of the **Paris Agreement on Climate Change** and the global **2030 Sustainable Development Goals** represent important milestones in recognizing the **inter-linkage and inter-dependence of our actions and their impacts on our planet's health.**

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- He also stated that contemporary threats respect no borders – whether it is **terrorism, climate change, pandemics, financial crises, or cyber security**.

Terrorism:

- The Vice President stated that **terrorism continues to expand its tentacles with increasing impunity**. This is the single most destructive threat to international peace and security. Its **capacity to inflict damage has multiplied with the diffusion of information technology**, giving terrorist organisations offensive cyber capabilities.
- He stated that the only way to fight this menace is to strengthen and implement, without exception, all existing international laws and mechanisms to combat terrorists and their enablers. No justification whatsoever can be accepted for violent extremist ideologies and terrorist actions that maim and murder innocents, disrupt the very fabric of our societies, and stall developmental efforts. He called upon all our NAM partners to come together to forge a common front against terror in all its forms. **NAM countries must do this by stepping up inter-agency coordination, exchanging information, and strengthening the existing legal framework by endorsing the Comprehensive Convention on International Terrorism (CCIT) proposed by India in 1996.**
- The Vice President stated that NAM countries find solutions to the development challenges of bringing **health, education, clean energy and jobs** to our people, amid a global economy being rapidly transformed by advances in technology. These common goals can only be achieved with a global governance system that is just, equitable, and representative. This necessitates early and meaningful reform of the United Nations, including a Security Council to reflect the contemporary realities of the 21st Century.

Background:

NAM Evolution:

- Non-Aligned Movement (NAM) was founded in the 1950's due to the then prevailing international context at that time which witnessed
 - a) Creation and strengthening of the socialist block as a rival to capitalist block after the World War II,
 - b) emergence of a bipolar world and the formation of two military blocks (NATO and the Warsaw Pact), and
 - c) collapse of colonial empires leading to political decolonization of many countries in Asia and Africa which wanted to consolidate political independence to attain goal of economic, social and cultural independence.

In this context, the underdeveloped countries, most of them in Asia and Africa, felt the need to join efforts for the common defense of their interests, strengthening of their independence and sovereignty and the cultural and economic revival of their people, and also to express a strong commitment to peace by declaring themselves as "non-aligned" from either of the two nascent military blocks.

- **Gamal Abdel Nasser of Egypt, Kwame Nkrumah of Ghana, Jawaharlal Nehru of India, Ahmed Sukarno of Indonesia and Josip Broz Tito of Yugoslavia** played a key role in the NAM and are considered as the founding fathers of the Non-Aligned Movement (NAM).
- **Non-Aligned Movement (NAM)** was officially founded in 1961, at the Belgrade Summit, drawing on the principles (also known as Bandung Principles) **agreed at the Afro-Asian Conference held in Bandung, Indonesia in 1955.**
- Such **principles** were adopted later as the main **goals and objectives** of the **policy of non-alignment**. The fulfillment of those principles became the **essential criterion for Non-Aligned Movement membership**.

Bandung principles:

The **ten principles** of Bandung are followings:

- Respect of the sovereignty and territorial integrity of all nations.

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- Recognition of the equality among all races and of the equality among all nations, both large and small.
 - Non-intervention or non-interference into the internal affairs of another -country.
 - Respect of the right of every nation to defend itself, either individually or collectively, in conformity with the Charter of the United Nations.
 - Non-use of collective defense pacts to benefit the specific interests of any of the great powers. Non-use of pressures by any country against other countries.
 - Refraining from carrying out or threatening to carry out aggression, or from using force against the territorial integrity or political independence of any country.
 - Peaceful solution of all international conflicts in conformity with the Charter of the United Nations.
 - Promotion of mutual interests and of cooperation.
 - Respect of justice and of international obligations.
 - Respect of fundamental human rights and of the objectives and principles of the Charter of the United Nations.

NAM has a **membership** of 120 countries.

Address of the External Affairs Minister at the NAM Ministerial Meeting

- Addressing the Ministerial meeting of the Non-Aligned Movement (NAM) on October 23, 2019, Dr. Subrahmanyam Jaishankar, External Affairs Minister of India, stated that as a proud founding member, **India remains committed to the principles and objectives of the Non Aligned Movement.**

On the Relavance of NAM:

- He stated that the world today has moved on from what the NAM founding leaders faced in Bandung in 1955. The **scales of global geo-political balance have shifted**, and continue to do so, **propelled** by forces of **globalisation** and **transformational technological progress**. Long-held assumption and alignments rooted in the **legacies of colonialism** and the **ideology of the Cold War** are **making way for new configurations** and **partnerships**.
- The Minister stated that NAM member countries are **more interconnected** and **interdependent than ever before**. **Climate change, environmental degradation, terrorism, radicalisation, poverty, public health emergencies, humanitarian and natural calamities, cyber security threats**, and the **serious security implications of frontier technologies** are just some of the challenges of this new world.
- **These challenges can only be faced together, not when we are divided**. It requires **collaboration**, not coercion. In short, effective multilateralism remains the only answer which requires all of us to be truly independent and think for ourselves, the Minister stated.
- The Minister staed that **multilateralism is undoubtedly under strain today**. It is important that **NAM Movement** that represents two thirds of the world's population - continues to work together and **take the lead in building multilateral governance structures** that are capable of meeting these challenges.
- He stated that member countries must **reform and revitalise the current arrangements and working methods of NAM Movement**, to allow us to pursue a positive and forward looking agenda. At the same time, we must guard against attempts to divide us and to misuse multilateral platforms to further narrow interests.

Reform of United Nations:

- The Minister stated that member countries must work towards early and meaningful reform of the United Nations, and in particular its principal organ of global peace and security, the Security Council.

Terrorism:

- Mr. Jaishnkar stated that **terrorism** is the **single biggest threat not only to international peace and security, but** also to **development**. No cause justifies the indiscriminate killing of innocents as a means of achieving a political goal. The growing linkages between terrorist groups and cross-border

operations including terror financing networks, and the spread of hateful ideologies through modern communication technologies have left no country untouched by this scourge, the Minister stated.

- He stated that fight against terrorism has to be fought collectively and across all fronts. The international community cannot afford selective approaches or double standards on this issue.
- He stated that NAM countries must boost collective efforts for cooperation among Member States to confront the scourge of terrorism, including through **exchange of information and best practices, preventing misuse of modern technologies, monitoring illicit financial flows and cooperating in investigation and judicial procedures.**
- He stated that **in 1996, India proposed a Comprehensive Convention on International Terrorism (CCIT)** in order to further strengthen the existing legal frameworks. Two decades on, there is no progress. He urged NAM countries to renew the commitment to finalize the CCIT, and to mobilise the international community towards this goal.

Challenge posed by Technology:

- The Minister stated that technology is transforming our world at an unprecedented rate. As developing countries, people in the NAM countries stand to be the **most profoundly affected by these changes.** Hence, policy makers and industry in the NAM countries must have the capacity to manage this transformation.
- He stated that **Digital and data-based technologies, Artificial Intelligence, and Industry 4.0** hold immense promise for the prosperity and quality of life of people. At the same time, these present new challenges in the form of implications for the **future of work, threats to privacy, cyber crime and data theft.** Again, the only way to address these issues, which cut across borders, is to **act together,** the Minister noted.
- He stated that **multilateral systems must offer innovative solutions to these new and emerging challenges.** India is proud to be associated with two such new initiatives: the **International Solar Alliance** and the **Coalition for Disaster Resilient Infrastructure.** He invited more of NAM countries to join us in these endeavours towards a **cleaner, safer and more sustainable planet.**
- The Minister stated that NAM's strength lies not just in numbers (120 countries membership) but in the sheer diversity of its membership, and in our firm anchoring in commonly agreed principles.
- He urged the NAM members to **revitalize NAM Movement in order to secure a peaceful and prosperous future for all people in the NAM countries.**

RC REDDY IAS STUDY CIRCLE

INTERNATIONAL POLITY

ISIS:

Islamic State (IS) Leader Abu Bakr al-Baghdadi Dies in U.S Military Operation

- On October 27, 2019, Abu Bakr al-Baghdadi, the founder and head of the Islamic State, killed himself and his three children by detonating a suicide vest as he was cornered by the US special operations in his hideout outside the village of Barisha, in the north-western Syrian province of Idlib.

The U.S named the military raid on al-Baghdadi as '**Operation Kayla Mueller**', an American aid worker who was abducted and raped repeatedly by Baghdadi before she was killed.

Baghdadi was given religious rites according to the Islamic custom and buried at sea. A similar process was carried out following the killing of al-Qaeda founder Osama bin Laden in Pakistan in 2011.

- Baghdadi's death marked the end of a five years-long hunt to find one of the most wanted terrorists in the world.
- In 2014, Mr. Abu Bakr al-Baghdadi founded a **self-proclaimed caliphate "Islamic State"** after capturing parts of Iraq and Syria.
- **Caliphate** means **political-religious state** under a "**Caliph**" comprising Muslims. It **came into existence** after the death of Prophet Muhammad in 632 CE.
- A **Caliph** is considered as a "**successor**" to Islamic prophet Muhammad and a **leader** of the **entire** Muslim community. A Caliph has both **political authority** and **religious authority** over his subjects.
- Caliphate grew rapidly through conquest after the death of Prophet Muhammad to include most of Southwest Asia, North Africa, and Spain. However, dynastic struggles later brought about the Caliphate's decline, and it ceased to exist as a functioning political institution with the Mongol destruction of Baghdad in 1258.

About Islamic State:

- The 'Islamic State' under Mr. al-Baghdadi was notorious for beheadings, stonings, crucifixions, and slavery.
- At its peak, IS controlled 88,000 sq km (34,000 sq miles) of territory stretching from western Syria to eastern Iraq and imposed its brutal rule on almost eight million people.
- It generated billions of dollars in revenue from oil, extortion and kidnapping.

About al-Baghdadi:

- al-Baghdadi's real name is Ibrahim Awwad Ibrahim al-Badri. He was born in 1971 in the central Iraqi city of Samarra.
- His religious Sunni Arab family claimed to be descendents of the Prophet Muhammad's Quraysh tribe - something generally held by pre-modern Sunni scholars as being a key qualification for becoming a caliph.
- After finishing school in the early 1990s he moved to the capital, Baghdad. He gained bachelor's and master's degrees in Islamic studies before embarking on a PhD at the Islamic University of Baghdad.
- Following the US-led invasion that toppled President Saddam Hussein in 2003, Baghdadi reportedly helped found an Islamist insurgent group called Jamaat Jaysh Ahl al-Sunnah wa-l-Jamaah that attacked US troops and their allies.
- In early 2004, Baghdadi was detained by US troops in the city of Falluja, west of Baghdad, and was taken to a detention centre at Camp Bucca in the south. He was considered a low-level threat by the US and was released after 10 months.
- After leaving Camp Bucca, Baghdadi is believed to have come into contact with the newly formed al-Qaeda in Iraq (AQI). Under the leadership of the Jordanian Abu Musab al-Zarqawi, AQI became a major force in the Iraqi insurgency and gained notoriety for its brutal tactics, including beheadings.

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- In early 2006, AQI created a jihadist umbrella organisation called the Mujahideen Shura Council, which Baghdadi's group pledged allegiance to and joined.
 - Later that year, following Zarqawi's death in a US air strike, the organisation changed its name to the Islamic State of Iraq (ISI). Baghdadi supervised the ISI's Sharia committees and joined its consultative Shura Council.
 - When ISI's leader Abu Umar al-Baghdadi died in a US raid in 2010 along with his deputy Abu Ayyub al-Masri, Abu Bakr al-Baghdadi was named his successor.
 - He inherited an organisation that US commanders believed to be on the verge of a strategic defeat. But with the help of several Saddam-era military and intelligence officers, among them fellow former Camp Bucca inmates, he gradually rebuilt ISI.
 - By early 2013, it was once again carrying out dozens of attacks a month in Iraq. It had also joined the rebellion against President Bashar al-Assad in Syria, sending Syrian militants back from Iraq to set up the al-Nusra Front as al-Qaeda's affiliate in the country.
 - In April 2013, Baghdadi announced the merger of his forces in Iraq and Syria and the creation of "Islamic State in Iraq and the Levant" (Isis/Isil).
 - At the end of 2013, Isis shifted its focus back to Iraq and exploited a political stand-off between the Shia-led government and the minority Sunni Arab community. Aided by tribesmen and former Saddam Hussein loyalists, Isis overran Falluja, a city in Iraq.
 - In June 2014, several hundred Isis militants overran the northern city of Mosul, routing the Iraqi army.
 - At the end of June 2014, after consolidating its hold over dozens of Iraqi cities and towns, Isis declared the creation of a "caliphate" - a state governed in accordance with Sharia (Islamic law) by a caliph - and renamed itself "Islamic State". It proclaimed Baghdadi as "Caliph" and demanded allegiance from Muslims worldwide.
 - He exhorted Muslims to emigrate to IS territory in order to carry out a war for the faith against unbelievers. Tens of thousands of foreigners went on to heed the call.
 - In July 2014, IS militants advanced into areas controlled by Iraq's Kurdish ethnic minority and killed or enslaved thousands of members of the Yazidi religious group.
 - The atrocities against the Yazidis, which UN human rights investigators said constituted the crime of genocide, prompted a US-led multinational coalition to launch an air campaign against the jihadists in Iraq. It started conducting air strikes in Syria in September (2014), after IS beheaded several Western hostages.
 - IS welcomed the prospect of direct confrontation with the US-led coalition, viewing it as a harbinger of an end-of-times showdown between Muslims and their enemies.
 - In the areas under its control, IS implemented an **extreme interpretation of Islamic law** that terrorised residents. **Women** accused of adultery were stoned to death, **thieves** had their hands amputated, and **those** accused of **opposing** IS rule were beheaded or crucified.
 - Once the US-led coalition intervened, IS began to be slowly driven out of the territory it controlled.
 - The ensuing war left many thousands of people dead across Iraq and Syria, displaced millions more, and devastated entire areas.
 - In Iraq, federal security forces and Kurdish Peshmerga fighters were supported by both the US-led coalition and a paramilitary force dominated by Iran-backed militias, the Popular Mobilisation (al-Hashd al-Shaabi).
 - In Syria, the US-led coalition backed an alliance of Syrian Kurdish and Arab militias, the Syrian Democratic Forces (SDF), and some Syrian Arab rebel factions in the southern desert. Troops loyal to President Assad meanwhile also battled IS with the help of Russian air strikes and Iran-backed militiamen.
 - In March 2019, the last piece of territory held by IS in Syria, near the village of Baghuz, was captured by the SDF, bringing a formal end to Baghdadi's "caliphate".

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- Throughout the fighting, the question of whether Baghdadi was dead or alive remained a source of mystery and confusion.
 - Finally, in April 2019, Baghdadi appeared in a video for the first time in almost five years. He acknowledged his group's losses and said IS was now waging a "battle of attrition", urging supporters to launch attacks to drain its enemies' human, military, economic, and logistical resources.
 - In October 2019, the U.S announced the death of Baghdadi after US special operations forces carried out a raid outside the village of Barisha, in the north-western Syrian province of Idlib.

Turkey:

Turkey Launches Military Offensive on Northern Syria

- On October 9, 2019, Turkey launched a military offensive "**Operation Peace Spring**" in northeastern Syria to create a 30 km deep "safe zone" along the Syrian side of the border.
- The attack took place after the President Donald Trump, on October 6, 2019, abruptly pulled US troops from along the Turkey-Syria border. US troops stationed in the region had been an obstacle to Turkish expansion in northern Syria.

Details:

Turkey Raided Northern Syria

1. to neutralize terror threats against Turkey, and
 2. establish a safe zone, facilitating the return of Syrian refugees to their homes.
- Turkey hosts more than 3.6 million Syrians who fled the civil war that began in 2011.
 - It wants to set up a 30 km safe zone along its border in northern Syria and relocate up to two million Syrians in the zone. The safe zone would also serve as a buffer against the ongoing Syrian war.
 - Turkey also wants to push back from its border members of a Syrian Kurdish militia called YPG (an acronym) which in English means People's Protection Units.
 - Turkey also considers the Kurdish YPG militia as a terrorist organisation. Turkey considers YPG as military wing of the Kurdistan Workers' Party (PKK), which has fought for Kurdish autonomy in Turkey for three decades.
 - Kurds are the largest ethnic minority in Turkey, making up roughly 20% of the population.

YPG a Dominant Force in Syrian Democratic Forces (SDF):

- The YPG is the dominant force in an alliance of Kurdish and Arab militias called the Syrian Democratic Forces (SDF). With the help of air strikes by a US-led multinational coalition against the jihadist group Islamic State (IS), SDF fighters captured tens of thousands of square kilometres of territory in north-eastern Syria between 2015 and 2019.
- The SDF set up an autonomous administration to govern the region, home to three million people. It avoided conflict with the Syrian government, but sought recognition for Kurdish autonomy.

Russia and Syria Agree for Joint Control of the Border Area:

- The attacks on YPG by Turkey started on October 9, 2019. Four days later, the SDF turned to the Syrian government and its backer, Russia, for help. They agreed to deploy Syrian soldiers to stop the advance.
- Turkey and Russia subsequently agreed to take joint control of the border area. Russia and Syria also agreed to ensure that YPG fighters pull back 30 km from the border.

About Kurds:

- Kurds do not have an official homeland or country.
- They were mostly nomadic until the end of World War I and the breakup of the Ottoman Empire.
- In the early 20th Century, many Kurds began to consider the creation of a homeland - generally referred to as "Kurdistan". After World War One and the defeat of the Ottoman Empire, the victorious Western allies made provision for a Kurdish state in the 1920 Treaty of Sevres.

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- Such hopes were dashed three years later, however, when the Treaty of Lausanne, which set the boundaries of modern Turkey, made no provision for a Kurdish state and left Kurds with minority status in their respective countries. Over the next 80 years, any move by Kurds to set up an independent state was brutally quashed.
 - At present, around 25 to 35 million Kurds inhabit a mountainous region straddling the borders of Turkey, Iraq, Syria, Iran and Armenia (south-eastern Turkey, north-eastern Syria, northern Iraq, north-western Iran and south-western Armenia.)
 - Kurds make up the fourth-largest ethnic group in the Middle East but they have never obtained a permanent nation state.
 - Kurds make up about 10% of the population in Syria, 20 % of the population of Turkey, 15-20% of the population of Iraq and are the second largest ethnicity in Iran.
 - Most Kurds are Sunni Muslims, but the Kurdish population has diverse cultural, social, religious traditions as well as a variety of dialects.

Saudi Arabia:

Saudi Arabia Allows Women to Serve in Armed Forces

- On October 9, 2019, Saudi Arabia announced eligibility for women to serve in the armed forces. The move is the latest in a series of measures aimed at increasing the rights of women in the kingdom after Crown Prince Mohammed bin Salman, the kingdom's de facto ruler, embarked on a broad programme of **economic and social reforms to diversify its economy from oil under Vision 2030 agenda** announced in 2016.
- Saudi Arabia is the **world's largest crude exporter** and **its economy is oil export-dependent**.
- The oil and gas sector accounts for about 50 per cent of gross domestic product, and about 70 per cent of export earnings.

Reforms initiated in Recent times:

Economic Reforms:

2016

- Stock market reforms doubled ownership limits to 10% for foreign institutional investors.
- New labour regulations restricted certain jobs to citizens and raised quotas for companies to hire Saudis.
- The National Project Management Organization is set up to reduce costs on state infrastructure projects.

Austerity Measures:

The following austerity measures were introduced as oil prices dopped globally and consequently revenues from export of oil dropped drastically for Saudi Arabia. (Saudi Arabia's earnings from petroleum exports shrank to \$134 billion in 2016, from a high of \$322 billion in 2013).

- Electricity and gasoline prices subsidies were reduced.
- Budget spending was reduced to control budget deficit.
- Cabinet ministers' salaries were reduced and a wage freeze was imposed on civil servants.

2017:

- Government launched the **Citizen's Account Program**, a cash handout for **low and middle-income Saudis** to offset the impact austerity measures. Under the program, cash was deposited directly in the accounts of the low and middle-income Saudis on a monthly basis. Allowance is based on the composition of the family and the number of members, age of the dependents, and the family's income. The amount of support to beneficiaries will vary according to the changing economic conditions of the household. More than 13 million beneficiaries registered in the Citizen Account.

2018:

- A 5% value-added tax (VAT) is imposed to improve non-oil revenue generation.
- Foreign investors were granted full access to NOMU, a parallel market for small- and medium-sized enterprises. NOMU is arabic word for 'growth'.
- New bankruptcy law was brought in to regulate procedures such as settlements and liquidation.

2019:

- Sin tax on electronic cigarettes and sugary drinks was imposed in a bid to diversify revenue streams.
- Saudi Arabia relaxed a 49% limit for foreign strategic investors in companies listed on the main Tadawul stock market.
- The capital market law is amended to allow the establishment of other exchanges alongside Tadawul.

Social Reforms:

- **April 2016:** Saudi Arabia curbed the powers of religious police that had patrolled public spaces to impose strict rules on women's dress and enforce bans on alcohol, music, prayer-time closures and the mixing of men and women.
- **December 2017:** The government ended a 35-year prohibition on cinemas, plans to open more than 300 movie theatres by 2030.
- **June 2018:** Saudi Arabia lifted a decades-old ban on women driving cars.
- **January 2019:** A royal decree allows music to be played in restaurants.
- **August 2019:** Adult Saudi women were allowed to travel abroad without being accompanied by a male guardian.
- **October 2019:** Saudi Arabia opened up to foreign tourists from 49 countries in an attempt to expand the tourism sector. A modest dress code is set for visitors, ending the requirement that women wear all-covering robes.

Foreign men and women are permitted to rent hotel rooms together without proving they are related. Alcohol remains banned.

Lebanon:**Lebanon's Prime Minister Saad Hariri Resigns Amidst Growing Protests**

- Lebanon's Prime Minister Saad Hariri tendered his resignation on October 29, 2019, bowing to a demand of the enormous anti-government protests that have crippled the country and suspended daily life for nearly two weeks.

Reasons for Anti-Government Protests:

- Simmering resentment against corruption,
(Lebanon ranks 138 out of 175 countries in Transparency International's Global Corruption Perception Index.)
- a dysfunctional government (Government is unable to provide basic public services such as 24-hour electricity, tap water or garbage disposal, etc.)
- stagnant economy (the country also has a very high debt to GDP ratio at 150 per cent),
- widening inequality (the richest 1 percent of the population claims a quarter of the national income while many of the rest struggle to find decently paid work), and
- high unemployment rate of 40 per cent in the country.

Immediate Reason:

- The Government is facing financial crisis.
- Hence, on October 17, 2019, it announced a new tax for calls made through apps like WhatsApp, Facebook Messenger and Apple's FaceTime. This decision led to nationwide protests against the Government.

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- Banks, schools and offices have been closed ever since as protesters have seized and blocked major roads.

Lebanese Prime Minister Saad Hariri Reform Package:

Before tendering his resignation, Lebanese Prime Minister Saad Hariri offered a wide-ranging reform package which includes

- a 2020 budget targeting a deficit of 0.6% of GDP,
- halving the salaries of lawmakers and ministers,
- eliminating some public bodies,
- a draft law to restore looted state money and, importantly, and
- levying no new taxes.

The government also rolled back the tax imposed on calls made through WhatsApp, Facebook Messenger and Apple's FaceTime.

But the protesters were not convinced as they believe that the current political leadership is responsible for all the problems in the country.

Lebanon in Brief:

Capital: Beirut

Population : 6 million. Shia Muslims, Sunni Muslims, Christians and Druze are the main population groups in a country

Area : 10,452 sq km (4,036 sq miles)

Major language : Arabic

Major religions : Islam, and Christianity

Life expectancy : 78 years (men), 81 years (women).

Political System:

- **Lebanon is a multiparty republic with a parliamentary system of government.**
- According to the '1989 Taif Accord', parliamentary seats are apportioned equally between Christian and Muslim sects, thereby replacing an earlier ratio that had favoured Christians. This sectarian distribution is also to be observed in appointments to public office.
- The head of state is the president, who is elected by a two-thirds majority of the National Assembly for a term of six years and is eligible to serve consecutive terms. By an unwritten convention the president must be a Maronite Christian, the Prime Minister a Sunni Muslim, and the speaker of the National Assembly a Shiite.
- The president, in consultation with the speaker of the National Assembly and the parliamentary deputies, invites a Sunni Muslim to form a cabinet, and the cabinet members' portfolios are organized to reflect the sectarian balance.

China-Nepal:

China and Nepal Conclude Agreements for All-weather Connectivity between Kathmandu and the Tibet Autonomous Region

- China and Nepal concluded agreements for all-weather road connectivity between Kathmandu and the Tibet Autonomous Region during the visit of Chinese President Xi Jinping to Nepal in October 2019. President Xi Jinping visited Nepal after his trip to Mamallapuram near Chennai for the informal summit with Indian Prime Minister Narendra Modi. Xi Jinping's visit to Nepal is the first by a Chinese state leader in 23 years.
- Both the countries signed 20 agreements concerning connectivity, border management, trade, investment, etc.
- China and Nepal also agreed for a feasibility study of the trans-Himalayan rail connectivity aimed at connecting the Nepal capital with major commercial centres of the Tibetan Autonomous Region and beyond in China.

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- Chinese President stated that China wants to support Nepal in realising its dream to become a 'land-linked country' from the landlocked country.
 - He also stated that China would always support Nepal in safeguarding the nation's "independence, sovereignty and territorial integrity."

Development Assistance:

- China extended 3.5 billion RMB (equivalent to Nepalese Rs 56 billion) to Nepal over the next two years to help the development programmes

Chinese Banks in Nepal:

- Nepal agreed to allow Chinese banks to open branches and other financial services in Nepal and increase imports from China.

Education:

- China has agreed to build the Madan Bhandari University for Science and Technology as a mark of respect for the late leader of the Communist Party of Nepal.

Culture:

- China also committed to build a railway line connecting Kathmandu and Pokhara with the birthplace of Lord Buddha at Lumbini.

Other Details:

- Nepal reiterated its "firm commitment" to the One China policy.
- Nepal also acknowledged that Taiwan was an "inalienable" part of China and promised not to allow any anti-China activities on Nepal territory.
- Both sides are working towards an extradition treaty.

Nepal Reducing its Dependence on India:

- India has traditionally had extensive influence over Nepal's politics and economy. India accounts for nearly two thirds of Nepal's trade and is the sole supplier of fuel. Nepalese citizens can work freely in India without visa restrictions. The remittances from India are crucial for Nepal's economy.
- But relations have suffered in recent years after Nepal accused India of imposing a blockade for five months from September 2015 to signal its displeasure over a new constitution, which New Delhi believed discriminated against people of Indian origin i.e the Madhesi ethnic minority.
- The blockade severely hit Nepal's economy and forced it to turn to its northern neighbour for much-needed food, fuel, drug supplies and other needs. Nepal accused India of tacitly engineering the blockade. New Delhi denied this, but Kathmandu was not convinced.
- Since, then Nepal is trying to end Indian dominance over its trade routes by increasing connectivity with China. Nepal is surrounded on its three sides by India and its north by China. By deepening relations with China, Nepal hopes to **reduce its over dependence on India** which it thinks is giving leverage to India to meddle in its internal affairs and also harness the **strategic autonomy** sovereign nations generally aspire to achieve.

Nepal sees connectivity with China both as a measure of stepping up business opportunities as well as the one which would bring 'independence' in her own decision-making.

- Nepal signed up for China's Belt and Road Initiative in May 2017, while India has refrained from taking part.

China's Perspective:

- China sees itself as a global power and is not shy of muscling its way into what's traditionally been India's sphere of influence. Chinese also have technology and the construction skills to build railways and roads in difficult terrain.
- The rise of the Nepalese Communist Party has also given the Chinese the edge. The present government in Nepal is led Khadga Prasad Sharma Oli of Nepal Communist Party (NCP).

Canada:

Liberal Party Emerges as the Largest Party in Canadian Elections

- Liberal Party headed by incumbent Prime Minister Justin Trudeau fell short of majority by 13 seats in parliamentary elections of Canada held in October 2019.
- The Liberal Party secured 157 seats in the 338 member House of Commons which elects the Prime Minister. 170 seats are required for parliamentary majority.
- The opposition Conservatives Party under Andrew Scheer won 121 seats. While the seats of Liberal Party have been reduced from 177 seats (2015 elections) to 157 seats, the seats of conservatives increased to 121 from 95 (2015 elections).
- Canada's left-leaning New Democratic Party (NDP) headed by Jagmeet Singh could become the kingmaker. NDP won 24 seats in the 338-seat parliament.
- Quebec's separatist party, the Bloc Québécois, which competes only in that province, fared much better. It won 32 seats, compared to the 10 it won in 2015.
- 47-year-old Trudeau, who has championed diversity as prime minister, was endorsed by former U.S. President Barack Obama in the final stretch of the campaign. He is viewed as one of the last remaining progressive leaders among the world's major democracies. Mr. Trudeau, after taking over as Prime Minister in 2015, had appointed a gender-balanced and racially diverse cabinet. While his Conservative predecessor Mr. Stephen Harper pulled the country out of the Kyoto protocol, Mr. Trudeau pledged decisive climate action. He also welcomed thousands of refugees when many others shut their doors.

Canada's Political System:

- Parliament of Canada, which consists of the sovereign (governor-general), the House of Commons, and the Senate. Both the House of Commons, which has 338 directly elected members, and the Senate, which normally consists of 105 appointed members, must pass all legislative bills before they can receive royal assent and become law.
- The House of Commons is more powerful than the Senate.
- After a general election, the governor-general calls on the leader of the party winning the most seats in the House of Commons to become prime minister and to form a government. The prime minister then chooses a cabinet, generally drawn from among the members of the House of Commons from that same party.
- The ministers of the crown, as members of the cabinet are called, are chosen generally to represent all regions of the country and its principal cultural, religious, and social interests. Although they exercise executive power, cabinet members are collectively responsible to the House of Commons and remain in office only as long as they retain its confidence.

Canada in Brief:

- Canada is the second largest country by area (3.8 million sq miles) in the world after Russia (6.5 million sq miles). However, its population (3.76 crores) is only about one-fifth of Russia's (14.45 crores).
- Nearly 90% of Canadians live within 200km of the border with the United States. Canada has vast expanses of wilderness to the north.

Full name: Canada

Population: 34.3 million (UN, 2011)

Capital: Ottawa

Largest city: Toronto

Area: 9.9 million sq km (3.8 million sq miles)

Major languages: English, French (both official)

Major religion: Christianity

Life expectancy: 79 years (men), 83 years (women) (UN)

SCIENCE AND TECHNOLOGY

ENVIRONMENT

Clean India (Swachh Bharat-Part 2): Eliminating Single-Use Plastic by 2022

- On 3 October 2019, the Union Minister for Environment, Mr. Prakash Javadekar announced that eliminating single-use plastic use in India by 2022 will be Clean India (Swachh Bharat-Part 2). (Clean India Part 1 is building 100 million toilets)
- On 2 October 2019, the Prime Minister of India has called for a people's movement to phase out single-use plastics in India by 2022. In 2018, on World Environment Day, India had announced the intention to phase out single-use plastics by 2020 and later moved the target to 2022.

What are single-use plastics?

Single-use plastics are disposable plastic products that are intended for one-time use before they are thrown away or recycled. Ex: Plastic carry bags, packaging items like disposable plastic water bottles, thermocol (polystyrene) food packaging, disposable plastic spoons, cups, and others.

- To achieve the target, the minister has mentioned that **the government is planning to focus on**
 - 1. driving behavioral change among people by conducting major public outreach/ awareness programme in the next three years, and**
 - 2. improving plastic waste management**

- The minister has mentioned that every day, India generates approximately 30,000 tonnes of plastic waste, of which approximately 10,000 tonnes of plastic waste goes uncollected.

Steps already taken by the government as mentioned by the Environment Minister :

- **The Environment Ministry has directed 500 national parks, zoos, and wildlife sanctuaries in India to avoid using single-use plastics completely.**
- **Government offices in all the states and Union territories are guided to ban the use of all types of single-use plastic items** like disposable thermocol containers, plastic carry bags, and discourage using plastic banners, flags, flowers, water bottles, plastic folders, and others.
- Other ministries have also started banning single-use plastic. EX: Indian Railways banned single-use plastic cups for tea.
- Many states have already imposed restrictions on manufacturing and usage of single-use plastics. (While almost all states have banned the usage of plastic carry bags, some states have banned many single-use plastic products with varying rules and regulations. Sikkim (in 2016), Karnataka (2016), Uttar Pradesh (2018), Maharashtra (2018), Telangana (2018), Himachal Pradesh (2018) and Tamil Nadu (2019)

How are single-use plastics harmful?

- Plastics take thousands of years to decompose and **cause significant harm to our environment as well as to humans.**
- **Most of the single-use plastics end up in our environment in landfills, waterways, and oceans.** They slowly breakdown into tiny pieces of plastic called microplastics and nano plastics, which pollute and leech toxic chemicals in the soil and water, and also enter the human food chain. (According to a UN Environment report only 9% of the nine billion tonnes of plastic waste generated in the world has been recycled)
- **While plastic waste lies in our environment,**
 - they clog drains and cause flooding
 - **it harms animals** as plastic waste gets ingested by land and marine animals. (Example: Recently in October 2019, surgeons from Tamil Nadu Veterinary University removed 52Kgs of plastic from the digestive system of a cow)

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- **Toxic plastic chemicals enter the human food chain** through seafood, animal products like meat, milk, etc. and even through bottled water.
 - Toxic chemicals from plastics can lead to cancers, nerve and brain damage, etc. in humans.

India Tightens Plastic Waste Import Ban Rules

On 3 October 2019, the Union Environment Ministry issued a clarification that the **plastic waste import ban issued on 1 March 2019 includes a ban on importing plastic waste in all forms, including flakes, lumps, and any other form of waste plastic.**

- **The expanded ban is to curb recycling companies in the country who have been circumventing the plastic waste import ban issued on 1 March 2019 by importing plastic waste in the form of flakes and lumps.**
- The ban issued on 1 March 2019 has not particularly mentioned the forms of plastic waste.
- Plastic waste lumps and flakes are made from plastic waste that is collected, sorted based on type and color, washed, dried, and then melted into lumps or shredded and granulated into flakes.

Why do recycling companies prefer importing plastic waste flakes and lumps?

- For recycling companies, imported plastic waste in the form of flakes and lumps is **cheaper and convenient compared to buying or collecting plastic waste generated domestically.**
- **How is it cheaper and convenient?** By importing plastic waste flakes and lumps, the recycling companies can avoid the cost and time involved in the initial stages of the plastic waste recycling process (collecting, sorting plastic waste based on type and color, washing, drying, shredding and granulating).

What do recycling companies do with plastic waste?

- They use plastic waste to make new plastic products. For example, PET (Polyethylene Terephthalate) flakes (made from waste PET bottles) are used to make products like polyester carpets, athletic shoes, automotive parts like bumpers, luggage racks, etc.

How does plastic waste import ban help the country?

- **It will improve plastic waste management in India** as it will force Indian recycling companies to collect and recycle the plastic waste generated in India itself.
- **India generates 25,940 tonnes (1 tonne = 1000kgs) of plastic waste every day, out of which 40% goes uncollected and ends up in landfills, water bodies, and oceans.**

Highest plastic waste importing states (April 2018 - February 2019)

1. Uttar Pradesh-28,846 tonnes of plastic waste
2. Delhi-19,517 tonnes
3. Maharashtra-19,375 tonnes
4. Gujarat-18,330 tonnes
5. Tamil Nadu-10,689 tonnes

Bombay High Court's Decision and Supreme Court's Hearing on Felling of Trees in Aarey Milk Colony in Mumbai

The Bombay High Court on October 4, 2019 gave a ruling in a case filed by NGOs and environmental activists who petitioned against the decision made by the Brihanmumbai Municipal Corporation to cut 2,646 trees in the Aarey Milk colony to allow the MMRCL (Mumbai Metro Rail Corporation Limited) to construct a car shed for Mumbai Metro 3.

- Aarey Milk Colony is located in Goregaon (East), a suburb of Mumbai, Maharashtra.
- **The High Court upheld the approval given by the Brihanmumbai Municipal Corporation's Tree Authority to cut 2,646 trees at the Aarey Milk Colony to allow the construction by the MMRCL**

The petitioners sought to declare 1280 hectares in Aarey milk colony as 'reserved forest' under The Indian Forest Act, 1927, to direct the state to issue a formal notification to that effect under the Act and to protect the flood plain of Mithi River where construction is prohibited.

Why the Bombay High Court dismissed the plea of the petitioners?

- The State has not formulated any policy laying down the parameters in Aarey milk colony for qualifying the land as a forest.

The petitioners filed **Special Leave Petition (SLP)** to be heard in Supreme court. They have also filed a petition before the **National Green Tribunal**.

What is Special Leave Petition (SLP)?

Under Article 136, the Constitution of India authorizes the Supreme Court to grant special permission to an aggrieved party against an order passed by any lower court or tribunal in India.

After an SLP is filed, the Supreme Court may hear the matter and if it deems fit, it may grant the 'leave' and convert that petition into an 'appeal'. SLP shall then become an Appeal and the Court will hear the matter and pass a judgment.

What is National Green Tribunal?

The National Green Tribunal has been established under **The National Green Tribunal Act 2010 for effective and expeditious disposal of cases relating to environmental protection and conservation of forests** and other natural resources including enforcement of any legal right and giving relief and compensation for damages to persons and property.

The National Green Tribunal deals with environmental protection cases which hold public agencies responsible to maintain air quality, reduce forest land encroachment, mitigate pollution of rivers, reduce contamination of groundwater and such issues relating to the environment.

Arrest of environmental activists

Environmental activists were arrested despite making peaceful protests. Section 144 was imposed near Aarey Milk Colony prohibiting assembly of 4 or more people.

Union Environment Minister Prakash Javadekar's reaction to the Bombay High Court Judgement

- The Union Environment Minister Prakash Javadekar supported the Bombay High Court judgement and said that Aarey milk colony was not a forest.
- He gave the example of Delhi Metro project where some 20-25 trees were cut to setup the first metro station and that saplings have been planted which grew into trees now. This way both development and environmental protection have been achieved-sustainable development.

Supreme Court Hearing

- **On October 7, 2019, Supreme Court decided to constitute a 'special bench'** to hear the case as a **Public Interest Litigation (PIL)**. An urgent hearing was requested by the environmental activists as already 1500 trees were cut from the night of October 5, 2019.
- **The Supreme Court on October 7, 2019 ordered the authorities only to not cut anymore trees in the Aarey Milk Colony and clarified that the stay order is only limited to the cutting of trees and does not stay the construction of the Metro shed project.**

What is a Public Interest Litigation (PIL)?

- **Public Interest Litigation (PIL) is used for issues of broad public concern. They are usually used to challenge the decisions of public authorities through judicial review.**
- **Judicial review** is a form of court proceeding in which a judge reviews the lawfulness of a decision or action, or a failure to act, by a public body.

Public interest litigation helps in the following ways to

- clarify the law by giving judges an opportunity to interpret the legislation,

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- hold public bodies accountable by ensuring that they make appropriate decisions, act fairly and transparently and within the limits of their powers
 - give vulnerable people a voice by highlighting an important issue and providing a platform for advocating their rights, and
 - raise awareness of important issues encouraging public debate and media coverage

Forest Advisory Commission announcement

Forest Advisory Commission of the Environment Ministry clarified on October 19, 2019 that is the prerogative of the states to define unconstituted land as forest as states have well established forest departments and are in a better position to define criteria for defining forests.

India among 6 Asian Countries to be Worst Affected by Rising Sea Levels

On October 29, 2019, a new study published in Nature Communications journal by **Scott A Kulp and Benjamin H Strauss** of the New Jersey-based non-profit Climate Central estimates **that by 2050**, without dramatic reductions in greenhouse gas emissions, **at least 300 million people across the world, that is more than three times the currently accepted number of 80 million, will be at risk of annual coastal flooding.**

75% of the 300 million global at-risk population living in coastal areas is in six Asian countries (China, Bangladesh, India, Vietnam, Indonesia and Thailand) that is estimated to be approximately 237 million people.

Impact on India:

- In India, the impact is estimated to be concentrated in **Mumbai , Kolkata, Odisha, Coastal Gujarat, Kochi and Chennai.**
- **36 million Indians in Coastal areas are at risk** which is more than the previous estimate of 5 million for India.

What is the new method that showed this increase in estimation of number of people affected by rising sea levels?

- This dramatic upward reconsideration in the number at-risk population is the result of a **correction in the way the coastal elevation is determined.**
- In **previous methods** that estimated coastal elevation, there was **significant error due to their reliance on satellite images to estimate coastal elevations.**
- **SRTM(Shuttle Radar Topography Mission) uses satellite images which model the elevation of upper surfaces like treetops and rooftops and not bare earth terrain** to determine elevation of surface from sea level.
- The **method of relying on satellite images vastly overestimated the ground level elevation** from the sea level especially in coastal areas that are highly urbanized and that with high vegetation.

How does the new method measure coastal elevations differently?

- The **new method corrects this overestimation by using artificial intelligence** for a more sophisticated assessment of the topography of the coastline.
- This **model incorporates 23 variables, including population and vegetation indices, and was trained using LIDAR-derived elevation data** in the US as ground truth.
- LIDAR-Light Detection and Ranging-is a remote sensing method which use helicopters and aeroplanes for imaging to examine the surface of the Earth
- Artificial Intelligence systems used existing LIDAR data in the US to train the model to predict the outcome when certain variables like population and vegetation are introduced.

United Nations IPCC(Intergovernmental Panel on Climate Change) reaction to the new study:

- The authors of IPCC's Special Report on the Ocean and Cryosphere agree with this new study on the estimated increase in the number of at risk people living in coastal areas to be effected by rising sea levels.
- The study by Kulp and Strauss reaffirms the findings of the special report on oceans by the United Nations' climate science body, the Intergovernmental Panel on Climate Change (IPCC) that was released in September.
- The IPCC report in September concluded that extreme sea-level events, such as surges from tropical cyclones, that are currently historically rare will become common by 2100 under all emissions scenarios due to increasing global mean sea level rise.
- IPCC report also determined that many low-lying megacities and small islands at almost all latitudes will experience such tropical surge events annually by 2050.

How will coastal areas be affected by the rise in Sea level according to this study?

- Higher and **more frequent coastal flooding** is a direct impact of sea-level rise
- These new assessments show the potential of climate change to reshape cities, economies and coastlines within our lifetimes.
- According to the new estimations of this study, 200 million people live on land that will be completely submerged by 2100
- Driven by climate change, global mean sea level rose 11-16?cm in the twentieth century
- Even with sharp, immediate cuts to carbon emissions, it could rise another 0.5?meters this century
- Under higher emissions scenarios, twenty-first century rise in sea level may approach 2 meters or in the extremes exceed 2?m in the case of early-onset Antarctic ice sheet melting.

How is this new data helpful?

- Translating sea-level rise projections into potential exposure of population is critical for coastal planning and for assessing the benefits of climate mitigation, as well as the consequences of failure to act.
- It provides knowledge to policy makers in decision making, better planning and implementation

It shows that climate change-related events should not be treated as disaster management events as disaster management events occur once or more in a year whereas climate change related events have already increased in frequency and hence call for better planning to manage such events.

HEALTH

The WHO (World Health Organization) - India Country Cooperation Strategy (CCS) 2019-2023 launched

On Oct 9, 2019 the Ministry of Health and Family Welfare announced 'The WHO (World Health Organization)-India Country Cooperation Strategy 2019-2023: A Time of Transition'. The CCS document is based on key strategic documents such as the National Health Policy 2017 and National health care initiatives such as Ayushman Bharat scheme.

The Country Cooperation Strategy (CCS) provides a strategic roadmap for WHO to work with the Government of India to

- achieve India's health sector goals,
- improve the health of Indians, and
- to bring transformative changes in the health sector.

The four **areas** identified for **strategic cooperation of WHO with India** include:

1. **accelerated progress on UHC (Universal Health Coverage);**
2. **promotion of health and wellness by addressing determinants of health;**
3. **better protection of the population against health emergencies** and
4. **enhancing India's global leadership in health**

What is UHC(Universal Health Coverage)?

- UHC(Universal Health Coverage) means that **all individuals and communities of a country receive quality primary health care services without suffering financial hardship.**
- It enables everyone access quality health care services that **address the causes for disease and death.**
- **Protection of people from paying for health care services out of their own pockets and reduction of the risk of people being pushed into poverty** because of unexpected illnesses which requires them to use up their life savings, sell assets, or borrow - destroying their futures and often those of their children
- **Attaining UHC(Universal Health Coverage) is an integral part of achieving "Good Health and Well-being"** one of the 17 **Sustainable Development Goals** adopted by the United Nations member states in 2015.
- **Measuring and monitoring UHC progress focuses on the following two things:**
 1. The **proportion of a population that can access essential quality health services.**
 2. The **proportion of the population that spends a large amount of household income on health.**

What are the determinants of health?

The determinants of health include:

- the **social and economic conditions,**
- the **physical environment,** and
- the **person's individual characteristics and behavior.**

The above mentioned factors play a considerable role in determining the health of an individual more than the commonly popular factors such as access and use of health care services which often have less of an impact on health.

What is a Health Emergency?

When the state authorities need to declare a **Health Emergency due to the imminent threat of an illness or health condition, caused by bio terrorism, epidemic or pandemic disease, or (a) novel and highly fatal infectious agent or biological toxin.**

WHO Declares the Eradication of Wild Polio Virus Type 3

On October 24, 2019, on World Polio Day, the World Health Organization (WHO) has announced that an independent commission of experts declared that **wild poliovirus type 3 (WPV3) had been eradicated globally.**

- **There are three strains of polioviruses, wild poliovirus type 1, 2 and 3.** All three types cause the same symptoms, but they are genetically different, so they must be eradicated separately.
- The **last case of wild poliovirus type 3** was recorded in **northern Nigeria in 2012.**
- A poliovirus type is considered eradicated if it is not recorded for three years.
- **Wild poliovirus type 2 (WPV2) was declared eradicated globally in 2015.** The last WPV2 case was detected in 1999.

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- **Wild poliovirus type 1 (WPV1) is the only remaining strain of poliovirus that must be eradicated.** WPV1 is in circulation only in Afghanistan and Pakistan.
 - Apart from the wild poliovirus type 1, 2, and 3, vaccine-derived polioviruses (VDPVs) also cause polio disease.
 - All three types of wild polioviruses and vaccine-derived polioviruses (VDPVs) need to be eradicated globally to eradicate polio disease from the world.

What are vaccine-derived polioviruses (VDPVs)?

- **They are strains of polioviruses that have genetically mutated from the poliovirus strain used in the oral polio vaccine (OPV).**
- Oral polio vaccines (OPV) contain a weakened poliovirus strain that activates an immune response in a child when vaccinated using OPV
- However, after the vaccination, while immunity to the virus in the vaccine is developing in the child's body, the child excretes vaccine-virus for a period of 6 to 8 weeks.
- This vaccine-virus can spread to other children who have not been vaccinated in areas with poor sanitation.
- Very rarely, when this vaccine-virus continues to circulate for at least 12 months among a severely under vaccinated population, the virus mutates into a form that can cause paralysis leading to circulating Vaccine-Derived Poliovirus (VDPV)
- Vaccine-derived poliovirus cases occur very rarely when routine and supplementary immunization activities are not adequately carried out.
- " Since 2000, oral polio vaccines (OPV) have prevented more than 13 million polio cases; during the same period, 760 VDPV cases have been recorded.
- " Most of the vaccine-derived poliovirus (VDPV) cases are found to be caused by mutated versions of the weakened type 2 poliovirus contained in oral polio vaccines.
- " As wild poliovirus type 2 has been eradicated in 1999 and to reduce the risk of VDPV type2, in 2016, trivalent oral polio vaccines (tOPV) were replaced with bivalent oral polio vaccines (bOPV) all over the world. Trivalent oral polio vaccines (tOPV) contain weakened virus strains of type 1, 2, and 3 polioviruses whereas, bivalent oral polio vaccines (bOPV) contain weakened type 1 and type 3 viruses.
- " WHO recommends not using OPVs eventually after eradicating all types of wild polioviruses and recommends using only inactivated polio vaccine (IPV) in the future. IPV contains a killed form of the poliovirus unlike OPV that contains a live weakened poliovirus.
- " WHO has also recommended administering bivalent oral polio vaccines (bOPV) along with a dose of inactivated polio vaccine (IPV) world wide.
- " OPVs are very efficient in preventing the spread of polio because they are inexpensive, stimulate good mucosal immunity, and can be easily administered orally. Unlike OPVs, IPV requires sterile needles and health professionals to administer the vaccine.

What is the difference between eradication and elimination, according to the World Health Organization (WHO)?

Eradication:

- Eradication is the complete and permanent worldwide reduction to zero new cases of the disease through deliberate efforts. An eradicated disease needs no further control measures.
- **Smallpox, declared eradicated in 1980, is the only disease eradicated from the world so far.**
- **Among other viruses, wild poliovirus type 2 (WPV2) and wild poliovirus type 3 (WPV2) have been eradicated.**

Elimination:

- Elimination is the reduction to zero or a very low defined target rate of new cases of the disease in a defined geographical area.
- Eliminated diseases need continued measures to prevent the re-establishment of the disease.
- **India eliminated polio in 2014. The last case of polio in India was recorded in 2011.**

What is the Polio disease?

- Poliomyelitis (polio) is a highly infectious disease which mainly affects children under 5 years.
- The most severe symptoms include paralysis and can also cause death.
- There is no cure for polio
- It must be prevented through vaccinations.

SPACE**NASA Launches ICON Satellite to Study Ionosphere**

On 10 October 2019, after a two-year delay, NASA launched the ICON satellite to study changes in the ionosphere. ICON is abbreviation for Ionospheric Connection Explorer.

- To provide a comprehensive picture of the ionosphere, NASA planned two missions to study the ionosphere. GOLD (Global-scale Observations of the Limb and Disk) launched on a commercial host satellite on 25 January 2018 and the ICON satellite on 10 October 2019.
- GOLD placed in geostationary orbit at 35,400 km altitude is designed to gather a full-disk view of the ionosphere while ICON flying through ionosphere at a lower Earth orbit at 579 km altitude gathers detailed data from the ionosphere.

Launch details:

- Pegasus XL air-launch rocket was used to launch the ICON satellite.
- The Pegasus XL rocket to which ICON satellite was attached was dropped by L-1011 Stargazer aircraft at an altitude of 39,000 feet, after which the Pegasus XL rocket ignited within 5 seconds and launched the satellite to its orbit at an altitude of 579Km.

What is the ionosphere?

The ionosphere is the ionized part of the Earth's upper atmosphere, which is under constant change caused due mainly due to space weather and Earth's extreme weather conditions.

- It includes parts of the mesosphere, thermosphere, and exosphere extending from about 60Km to 1000 Km above the Earth.

What is Ionization?

- It is the process in which an atom or molecule acquires a positive or negative charge by losing or gaining an electron.
- The resulting charged atom or molecule is called an ion.

What is ionization in the ionosphere?

- The ionosphere is ionized by the solar radiation during the day (primarily X-rays, ultraviolet) and by cosmic radiation during the night from our galaxy and beyond (ex: rays from black holes, supernovae, rotating neutron stars and others)
- In the ionosphere, the energy from the sun and cosmic rays bombard the atoms in this region and strip them of one or more electrons, causing them to acquire a positive charge and thereby turning them into ions. Hence, the name ionosphere.
- The electrons stripped from the atoms or molecules are called free electrons and are negatively charged.

Importance of studying Ionosphere:

- **Ionosphere plays a vital role in the propagation of high-frequency radio waves used for long range radio communication on Earth, and it influences signals between satellites and Earth.** Also, the International Space Station (ISS) and many low-Earth orbiting (LEO) satellites fly in the ionosphere.
- **Sometimes, the changes in the ionosphere can disrupt radio communications, navigation, satellite orbits, and could increase radiation-related health risks for astronauts.**
- " Therefore, **getting a deeper understanding of ionosphere helps in better prediction of changes that might cause communication disruptions, improving the design and safety of satellites, and help better protect astronauts.**

1. Influence of Ionosphere on radio communication :

- **Ionosphere's ability to reflect high frequency (HF) radio waves to Earth is used to propagate high frequency radio waves to larger distances on Earth.** Radio waves cannot travel long distances on Earth as the Earth has a curved shape and radio waves travel in a straight line.
- When HF radio waves are projected towards the ionosphere at an angle, they are reflected to Earth which then bounce their way around the curved Earth.
- **Examples of where radio communication is used:** In Shipping, Aviation, World Broadcast Communications like AM bands, Radio Amateurs for non-commercial purposes like emergency communication, etc. (Radio communication is an old technology which is replaced by more reliable Satellite communication in many areas like aviation, military, etc.)
- **Changes in the ionosphere lead to changes in the quality of radio communication.** During the daytime, when there is sunlight, the ionization intensity is leading to more free electrons, which decreases the ionosphere's ability to reflect HF radio waves, thereby affecting the quality of propagation of HF radio waves. However, during the nighttime, when there is no effect of sun on the ionosphere, there are fewer free electrons, which improves the quality of reflection of HF radio waves and their propagation to longer distances.
- **Solar flares cause changes in the ionosphere that lead to long-distance radio communication blackouts.** (Solar flares are explosions on sun that produce high energy particles and electromagnetic radiation)
- Solar flares rapidly increase ionization and the number of free electrons in the ionosphere, which absorb the high-frequency radio waves leading to a long-distance radio communication blackouts.

2. Influence of Ionosphere on signals between Satellites and Earth:

- **Satellites use radio waves to communicate with the receivers on Earth.** Changes in the ionosphere affect the radio signals from satellites.
- Example: **In navigation systems like GPS,** satellites use radio waves to send signals to the receivers on Earth, which pass through the ionosphere. **Changes caused in the ionosphere by solar flares can cause a delay in the GPS signal's transit leading to errors in position by many yards.**

Saturn Becomes the Planet With Most Moons Beating Jupiter

On 7 October 2019, the International Astronomical Union's Minor Planet Center has announced the discovery of 20 new moons orbiting Saturn.

- **This discovery has made Saturn the planet with most moons (82 moons) in our solar system, taking Jupiter's place (79 moons).**

Who identified the moons?

- Astronomer Scott Sheppard and his team at the Carnegie Institute for Science in U.S.A identified the 20 new moons around Saturn using a telescope in Hawaii.

Details of the 20 new moons around Saturn :

- Saturn's 20 new moons are tiny with hardly a diameter of 5km and so far from Saturn that they take two to three years to orbit around Saturn.

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- 17 of them orbit around Saturn in **retrograde direction** (backwards/in the opposite direction of Saturn's rotation)
 - 3 of them orbit Saturn in **prograde direction** (in the same direction as Saturn's rotation)
 - There could be more Saturn moons to be discovered.
 - Astronomers have almost identified all moons as small as 5km diameter around Saturn and moons as small as 1.6 km diameter around Jupiter.
 - As Saturn is farther from Earth compared to Jupiter, more powerful telescopes are required to identify any other new smaller moons around Saturn.

Jupiter has the biggest moon:

- **Ganymede, one of Jupiter's moons, is the biggest moon in our solar system.** It is larger than planet Mercury and almost half the size of Earth.
- Jupiter is the biggest planet in our solar system, followed by Saturn, which is the second biggest.

World's First All-Female Spacewalk

On 18 October 2019, for the first time, an all-female spacewalk was conducted to fix a power network on the International Space Station (ISS).

- When an astronaut gets out of a vehicle in space, it is called spacewalking. Astronauts perform spacewalks for various reasons like fixing satellites, ISS, conducting experiments, etc. **Spacewalks are called Extravehicular Activity (EVA)** in astronauts' jargon.
- The all-female spacewalk team consisted of **NASA astronauts Christina Koch and Jessica Meir.** This spacewalk was the fourth one for Christina Koch and the first one for **Jessica Meir, who became the 15th woman to spacewalk. (213 male astronauts spacewalked so far)**
- **Previously, female astronauts performed spacewalks along with male team members.**
- On 17 July 1984, **Svetlana Savitskaya**, from the Soviet Union, became the **first female astronaut to spacewalk.**
- Valentina Tereshkova from the Soviet Union, on 6 March 1962, became the first female astronaut to go to space.

INFORMATION TECHNOLOGY

Google Claims 'Quantum Supremacy'

On October 23 2019, Google announced that it has achieved **Quantum Supremacy (a breakthrough in the field of Quantum Computing) through its research.** To substantiate this announcement, it has published its research and experimental findings in Nature magazine.

What is Quantum Supremacy?

Quantum Supremacy is the **state in which a quantum computer can outperform a classical computer in terms of computational speed.**

A Quantum computer uses the laws of quantum mechanics dealing with the motion of subatomic particles like protons, electrons and neutrinos while a classical computer (current laptops, personal devices) use the laws of Newton's classical physics.

What is a Quantum computer and Quantum Computing?

Quantum computing uses **subatomic particles (electrons, neutrinos, photons) and their quantum mechanics properties** in particular the **property of superposition and entanglement** to solve highly complex problems in drastically less time than classical or supercomputers.

How are Quantum computers different from Classical computers?

Quantum computers are fundamentally different from classical computers as they are not a better version of classical computers but an **entirely new technology that harnesses the properties of subatomic particles to compute at far greater speeds.** Quantum computing deals with an entirely new way of computing.

1. Classical computers use bits while quantum computers use qubits or quantum bits.

Classical computers process information in bits that can be set as either zero or one, a **quantum computer employs qubits** which can **be set to zero, one, or both 1 and 0 at the same time.**

Qubits are subatomic particles like electrons used in a quantum computer.

A qubit could exist in a fluid state of both 1 and 0 at the same time while a bit can be either in the state of 1 or 0 only at a particular time.

2. Quantum Computers use properties of quantum mechanics called Superposition and Entanglement

What is Superposition?

The property of qubits in quantum computers **to exist in the state of both 1 and 0 at the same time** is called Superposition which enables a quantum computer to process a multitude of inputs simultaneously greatly increasing its processing or computational speed.

What is Entanglement?

When two **subatomic particles or qubits like electrons interact with each other** at some point **they retain a type of connection or correlation and can be entangled with each other in pairs.** If one entangled particle assumes a spin in one direction the other automatically assumes the opposite spin.

No matter how great the distance between the correlated particles, they will remain entangled as long as they are isolated from external forces.

3. Quantum computers need severely isolated and controlled environments

Qubits should be isolated from external forces that cause the qubits lose their entangled state. Hence, quantum computers need extremely isolated environments controlled by absolute zero temperatures and no noise environment which is a great challenge.

How did Google prove that it attained Quantum Supremacy?

In order to prove practically what was a theoretical claim that quantum computers can outperform classical computers, **Google developed a microprocessor, named Sycamore, that packs a total of 54 qubits and through an experiment, researchers were able to get 53 of the qubits connected or entangled to each other.**

They then set the quantum computer a **complex task to detect patterns in a series of seemingly random numbers. It solved the problem in 3 minutes and 20 seconds.**

They estimated that the same problem would take 10,000 years to be solved by IBM's Summit supercomputer located at Oak Ridge National Laboratory in USA which is the most powerful supercomputer in the world.

IBM's reaction to Google's announcement of Quantum Supremacy

However, IBM said that a supercomputer with additional disk storage and enhanced algorithms can solve the random number problem in at most 2-1/2 days, with greater accuracy.

IBM also said that Google was misleading the public by implying that quantum computers would replace existing classical computers. Researchers at IBM believe that Quantum computers would never reign supreme over classical computers but that they will work in concert with each other.

What are the futuristic possible applications of quantum computing?

Few possible applications of quantum computing are

1. **Security or Quantum encryption-** Quantum uncertainty principle can be used to create private online security keys for encryption to protect information from hackers. Quantum uncertainty principle states that one cannot know all things about a subatomic particle making it extremely difficult to decrypt quantum security keys.
2. **Drug development-** Quantum computing can be used in the design and analysis of molecules for drug development.
3. **Teleportation of information-** Information can be sent from one location to another without physically transmitting the information but can be transmitted using the quantum mechanics property of entanglement. This could lead to a future quantum internet.

PERSONS, AWARDS & SPORTS

International Persons

Alexei Leonov (85), the legendary Soviet cosmonaut who became the first human to walk in space 54 years ago, died in Moscow on October 11, 2019.

At a time when the US and the USSR were competing for space supremacy, Leonov's mission was lauded as a triumph at home (Russia). But Leonov's ambitions did not stop at his spacewalk. He went on to become the commander of Soyuz-Apollo, the first ever joint US-Soviet mission in 1975.

Robert Evans (89), legendary Hollywood movie producer and former Paramount Pictures executive who made 1970s classics as 'The Godfather' and 'Chinatown', 'Rosemary's Baby' and 'Love Story' died on October 26, 2019. Born as Robert Shapera in New York City, his biggest hit was 1974's Chinatown, starring Jack Nicholson and Faye Dunaway, which earned him an Oscar nod for Best Picture. Evans accepted the Producers Guild of America's Lifetime Achievement Award in 2003.

National Persons

Justice Sharad A. Bobde, the senior-most judge in the Supreme Court after Chief Justice of India (CJI) Ranjan Gogoi, was appointed as the next Chief Justice of India by President Ram Nath Kovind on October 29, 2019. Justice Bobde who will be the 47th Chief Justice of India (CJI) will hold office till April 23, 2021.

Born on April 24, 1956 in Nagpur, Maharashtra, Bobde completed Bachelor of Arts and LLB degrees from Nagpur University. He was enrolled as an advocate of the Bar Council of Maharashtra in 1978 and practised law at the Nagpur Bench of the Bombay High Court.

Bobde was elevated to Bombay High Court on March 29, 2000, as Additional Judge and sworn in as Chief Justice of Madhya Pradesh High Court on October 16, 2012. He was elevated as a judge of the Supreme Court on April 12, 2013.

Gurudas Dasgupta (83), veteran trade unionist, senior Communist Party of India (CPI) leader and an able parliamentarian, passed away on October 31, 2019. Dasgupta was elected thrice to Rajya Sabha - in 1985, 1988 and 1994 - and twice to the Lok Sabha in 2004 and 2009.

Mr. Dasgupta was born in Barishal, now in Bangladesh. He started his political career in a south Kolkata college as a student union leader. In 1952, he got membership in the undivided Communist Party, though he was from a Congress family. He served as general secretary of the All India Trade Union Congress for 17 years.

Sister Mariam Thresia, founder of the Congregation of the Sisters of the Holy Family, was declared a saint by Pope Francis at a grand ceremony in Vatican City on October 13, 2019.

The nun, who hailed from Thrissur district in Kerala, was canonised along with English Cardinal John Henry Newman, Swiss laywoman Marguerite Bays, Brazilian nun Dulce Lopes, and Italian nun Giuseppina Vannini.

Sister Thresia was born on April 26, 1876 in Kerala's Thrissur district. She died on June 8, 1926 at the age of 50. She was declared venerable in June 1999 and beatified on April 9, 2000. Pope Francis approved the miracle attributed to her in 2009. A medical team from Vatican accepted on March 22, 2018 that a baby boy with life-threatening respiratory problems had been cured with her intercession.

Pranjal Patil, the country's first visually challenged 31-year-old woman IAS officer, assumed charge as Sub-Collector in Thiruvananthapuram on October 14, 2019.

Hailing from Ulhasnagar in Maharashtra, Patil lost her vision at the age of six, but it did not deter the youngster from pursuing her civil services dream. She cracked the Union Public Services Examination on her first attempt with a rank of 773 in 2016. She was refused a job in the Indian Railway Accounts Service because she was visually challenged. In her second attempt the very next year, she had drastically improved her rank by securing the 124th rank in the 2017 Civil services Examination.

Kadri Gopalnath (69), noted saxophone exponent and Padma Shri-awardee, passed away in Mangalore on October 11, 2019. Mr. Gopalnath has performed at various venues across the world, including in Europe, United States, Canada, Australia, Sri Lanka, and West Asia. He has the distinction of being the first Carnatic musician to be invited to the BBC concert in the Royal Albert Hall at London, in 1994.

Sports Persons

Sourav Ganguly, former captain of Indian cricket team, took over as the president of Board of Control for Cricket in India (BCCI) on October 23, 2019. Jay Shah, son of Union Home Minister Amit Shah, took over as the new secretary of BCCI while Arun Dhumal will be its treasurer. Dhumal is the younger brother of Minister of State for Finance and former BCCI president Anurag Thakur.

International Awards

Nobel Prizes 2019:

The 2019 Nobel Prizes were announced in October 2019.

Winners:

1. Physics:

On October 8, 2019 the Royal Swedish Academy of Sciences announced that the Nobel Prize for Physics would be awarded to

1. **Michel Mayor and Didier Queloz** of the University of Geneva, for discovering the first exoplanet **51 Pegasi b**
2. and the other half of the prize would go to **James Peebles, Princeton University, USA** for his contribution to physical cosmology specifically on theoretical findings about dark matter .

What are Exoplanets?

- **Exoplanets are planets which orbit a star outside the solar system.**
- According to NASA 4084 exoplanets were discovered so far since the 1900s and the existence of 4495 other potential exoplanets is yet to be confirmed.
- **51 Pegasi b was the first exoplanet to be discovered by Mayor and Queloz in December, 1995** using the "Wobble method" which measures the change in the radial velocity of an exoplanet.

What are the different methods used to discover exoplanets?

Method of discovery	Number of exoplanets discovered with the method according to NASA
Wobble or Radial Velocity method	778
Transit Method	3126
Direct Imaging	47
Gravitational Microlensing	84
Astrometry	1

What space devices were used to discover exoplanets?

- **Kepler Space Telescope** launched by NASA in 2009 accounts for most of the exoplanet discoveries so far.
- **TESS (Transiting Exoplanet Survey Satellite)** is the most recent two-year survey satellite launched
- **James Webb Space Telescope** will be the future exoplanet survey telescope to be launched by NASA in 2021.
- **Hubble Space Telescope** launched in 1990 has been used to observe exoplanets and their atmospheres.

What is Dark Matter?

- Dark matter is invisible and does not interact with light or the electromagnetic spectrum like the other normal matter in space like planets, stars, and galaxies do.
- **We know that dark matter exists because of its gravitational effects.** It has an attractive force on the galaxies which holds the matter in the galaxies together.
- **It constitutes about a quarter or 26% of the total contents of the universe** while the normal matter that we see and that interacts with light and the electromagnetic spectrum is **only about 4% of the contents of the universe.**

What was James Peebles contribution to the theoretical findings about Dark Matter?

- Peebles realized that **measuring the Cosmic Microwave Background's temperature could predict the amount of matter that was present during the Big Bang** and give us information about large scale structure formations like galaxies.
- **CMB is the electromagnetic radiation that is left from the Big Bang** which can be observed using radio telescopes that can detect its faint signal or glow.

2. Chemistry : Noble for Contribution to the Development of Lithium-ion (Li-ion) Batteries

The 2019 Nobel Prize for Chemistry was awarded to three scientists :M. Stanley Whittingham, John B. Goodenough, and Akira Yoshino, for their contributions to the development of lithium-ion (Li-ion) batteries.

What is a Li-ion battery?

- It is a **type of rechargeable battery**.
- They are used in portable electronic devices like mobile phones, laptops, tablets, drones, and electric cars, etc.

What is the importance of a Li-ion battery?

- They made compact portable electronic devices of today like the smartphones, smartwatches, etc. a reality
- They are used in electric cars which are crucial for a fossil fuel-free future.

Advantages of Li-ion batteries over other rechargeable batteries:

- They can be **lighter and more compact** compared to other rechargeable batteries, as Li-ion batteries have high energy density. They can store more energy compared to other rechargeable batteries of the same size and weight.
- **They can operate at high voltages** at about 3.7 volts. Single Li-ion battery can be used instead of multiple rechargeable batteries like Nickel Metal Hydride (NiMH) or Nickel Cadmium (NiCd), which operate at 1.2 volts.
- **They can retain charge longer compared to other rechargeable batteries** as they have low-self discharge rate.

How does a Li-ion battery work?

- In a conventional Li-ion battery, the cathode (positive electrode) is made up of a metal oxide, the anode (negative electrode) is made up of carbon, and the electrolyte (conductor) is lithium salt in an organic solution.
- While the battery is discharging energy, the lithium-ions move from the negative electrode to positive electrode and in the reverse direction while recharging.

Contributions of the three scientists to the development of Li-ion batteries:

Scientists	Contribution
Dr. M. Stanley Whittingham	<ul style="list-style-type: none">- Dr. Whittingham made the first functional lithium battery, which could store more energy and was lightweight compared to the lead-acid and nickel-cadmium rechargeable batteries.- However, as lithium was very reactive, the battery was prone to exploding- He used lithium as the anode (negative electrode) as it is a light metal and easily released electrons and used titanium-dioxide as the cathode (positive electrode) which could capture lithium ions in its molecular structure
Dr. John B. Goodenough (At 97 years, Dr. Goodenough became the oldest Nobel prize recipient)	<ul style="list-style-type: none">- Dr. Goodenough made Dr. Whittingham's lithium battery twice as powerful.- He replaced titanium- dioxide with cobalt oxide.
Dr. Akira Yoshino	<ul style="list-style-type: none">- Dr. Yoshino, in 1985 made a safer and the first commercially viable lithium-ion battery- He used carbon-based electrodes and eliminated pure lithium from the battery and used only lithium-ions, making the battery safer.

3. Medicine: (for discovery of how cells sense and adapt to oxygen)

The Nobel Prize for Physiology or Medicine has been awarded to William G. Kaelin Jr, Sir Peter J. Ratcliffe and Gregg L. Semenza for discovery of how cells sense and adapt to oxygen.

The fundamental importance of oxygen has been understood for centuries, but how cells adapt to changes in oxygen levels has long been unknown. This year's Nobel Prize winners identified molecular

machinery that regulates the activity of genes in response to varying levels of oxygen. Their discoveries have also paved the way for promising new strategies to fight anemia, cancer and many other diseases.

4. Literature:

The 2019 Nobel Prize in Literature was awarded to **Austrian author Peter Handke** "for an influential work that with linguistic ingenuity has explored the periphery and the specificity of human experience". Mr. Peter Handke is one of the most influential writers in Europe after the Second World War. His bibliography contains novels, essays, note books, dramatic works and screenplays.

2018 Award:

The 2018 Nobel Prize in Literature was awarded to Polish novelist Olga Tokarczuk "for a narrative imagination that with encyclopedic passion represents the crossing of boundaries as a form of life." Tokarczuk never views reality as stable or everlasting. She constructs her novels in a tension between cultural opposites: nature versus culture, reason versus madness, male versus female, home versus alienation.

In 2018, the Nobel Prize in Literature was not awarded due to infighting, accusations of corruption, and serious sexual assault allegations against members of the 'The Swedish Academy', a 233-year-old cultural institution which is responsible for choosing the winner awarding the Nobel Prize for Literature

5. Peace:

2019 Nobel Peace Prize was awarded to Ethiopian Prime Minister Abiy Ahmed Ali for his efforts to resolve the long-running conflict with neighbouring foe Eritrea. Ethiopia is Africa's second most populous country and has East Africa's largest economy.

On July 9, 2018, following a historic meeting in Eritrea's capital Asmara, Abiy and Eritrean President Isaias Afwerki formally ended a 20-year-old stalemate between the countries which arose in the wake of the 1998-2000 border conflict.

Abiy Ahmed Ali is Africa's youngest leader and has instilled a certain optimism in a region of Africa marred by violence.

He spent his first 100 days as Prime Minister lifting the country's state of emergency, granting amnesty to thousands of political prisoners, discontinuing media censorship, legalising outlawed opposition groups, dismissing military and civilian leaders who were suspected of corruption, and significantly increasing the influence of women in Ethiopian political and community life. He has also pledged to strengthen democracy by holding free and fair elections.

After peace process with Eritrea, Prime Minister Abiy has engaged in other peace and reconciliation processes in East and Northeast Africa. In September 2018 he and his government contributed actively to the normalisation of diplomatic relations between Eritrea and Djibouti after many years of political hostility. Additionally, Abiy Ahmed has sought to mediate between Kenya and Somalia in their protracted conflict over rights to a disputed marine area.

6. Economics: (for experimental approach to alleviating global poverty.)

Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2019 to Abhijit Banerjee, Esther Duflo and Michael Kremer "for their experimental approach to alleviating global poverty." The laureates have played a decisive role in reshaping research in development economics. Their research has already helped in alleviating global poverty and has great potential to further improve the lives of the most impoverished people in the world.

Prize Money:

- Winners in each category receive a cash prize of 9-million kronor (\$918,000), a gold medal and a diploma. If there is more than one winner in a category the prize money for that category is shared.

Booker Prize 2019:

2019 Booker Prize for Fiction was awarded jointly to Canadian author **Margaret Atwood** for 'The Testaments' and Anglo-Nigerian author **Bernardine Evaris** for 'Girl, Woman, Other'. Margaret Atwood became only the second female author to win the award twice.

Booker Prize is awarded annually to the best novel of the year written in English and published in the UK or Ireland. The award carries a prize money of £50,000.

The prize was launched in 1969 with sponsorship from leading British grocery wholesaler, Booker. It was renamed The Man Booker Prize in 2002 when the Man Group hedge fund took over sponsorship.

In 2019 it reverted to its original name when US charity Crankstart Foundation, founded by Silicon Valley-based billionaires, became the funder.

SPORTS

BADMINTON

French Open (Paris, 2019 October)

Men's Singles:

Chinese Chen Long (China) - Winner

Jonathan Christie (Indonesia) - Runner

Women's Singles:

An Se-young (Korea) - Winner

Carolina Marin (Spain) - Winner

Men's Doubles:

Marcus Fernaldi Gideon and Kevin Sanjaya Sukamuljo (Indonesia) - Winner

Satwiksairaj Rankireddy and Chirag Shetty (India) - Runner

Women's Doubles:

Lee So Hee and Shin Seung Chan - Winner

Kim So Yeong and Kong Hee Yong - Runner

Mixed Doubles:

Praveen Jordan and Melati Daeva Oktavinati - Winner

Zheng Si Wei and Hunag Ya Qiong - Runner

Dutch Open (Almere, Netherlands, 2019 October)

Men's Singles:

Lakshya Sen (India) - Winner

Yusuke Onodera (Japan) - Runner

Women's Singles:

Wang Zhi Yi (China) - Winner

Evgeniya Kosetskaya (Russia) - Runner

Men's Doubles:

Vladimir Ivanov and Ivn Sozonov - Winner

Mark Lamsfuss and Marvin Seidel - Runner

Women's Doubles:

Gabriela Stoeva and Stefani Stoeva - Winner

Rin Iwanaga and Kie Nakanishi - Runner

Mixed Doubles:

Robin Tabeling and Selena Piek - Winner

Chris Adcock and Gabrielle Adcock - Runner

Bahrain International Series (Bahrain, 2019 October)

Men's Singles:

Riyanshu Rajawat (India) - Winner

Jason Antho Ho Shue (Japan) - Runner

Women's Singles:

Sri Fatmawati (Indonesia) - Winner

Ira Sharma (India) - Runner

Men's Doubles:

Prad Tangsriapeepha and Apichasit Teerawiwat (Thailand) - Winner

Rohan Kapoor and Saurabh Sharma (India) - Runner

Women's Doubles:

Daniela Macias and Danica Nishimura - Winner

Suthinee Dansoonthornwon and Kanyanat Sudchoeicho - Runner

Mixes Doubles:

Venkat Gaurav Prasad and Juhi Dewangan (India) - Winner

Pannawat Theerapanitnun and Kanyanat Sudchoeicho - Runner

TABLE TENNIS

Fenesta National Table Tennis Championship (New Delhi, 2019 October)

Men's Singles:

Niki Poonacha - Winner

Aryan Goveas - Runner

Women's Singles:

Sowjanya Bavisetti - Winner

Purna Bhambri - Runner

GOLF

Women's Indian Open (Gurugram, 2019 October)

Christine Wolf (Australia) - Winner

Mariaane Skarpnord (Norway) - Runner

CRICKET

Vijay Hazare Trophy (Bengaluru, 2019 October)

Karnataka - Winner

Tamil Nadu - Runner

Karnataka won the title for the fourth time.

FORMULA ONE

Mexican Grand Prix. (Mexican Grand Prix, 2019 October)

Lewis Hamilton - Winner

Sebastian Vettel - Runner

Japan Grand Prix (Suzuka, 2019 October)

V. Bottas - Winner

S. Vettel - Runner