

My Notes....

NATIONAL

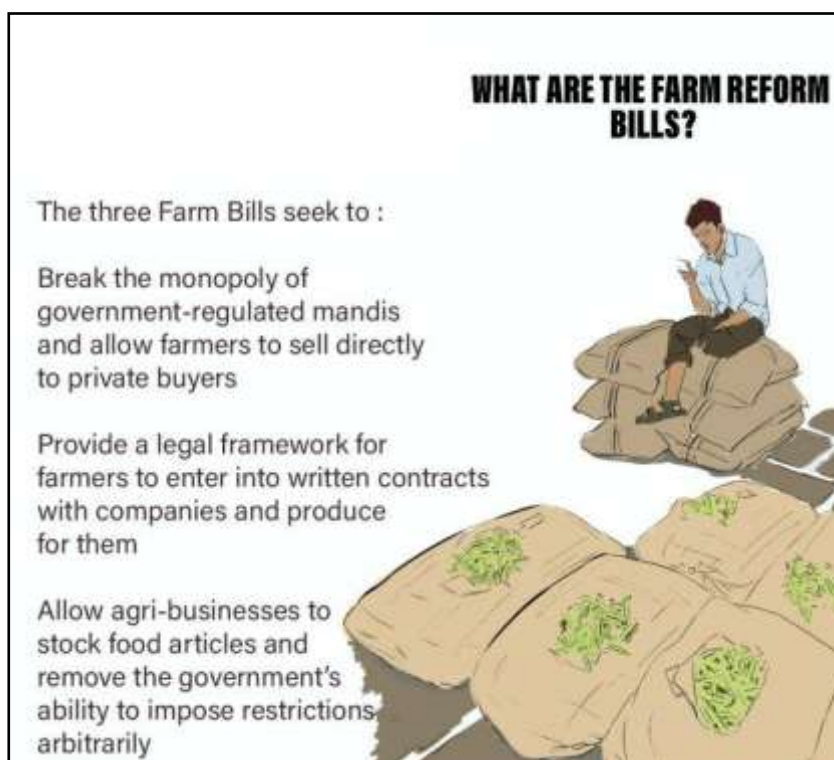
THREE FARM BILLS PASSED

The **Parliament** passed **three agriculture sector bills** which will replace the **existing ordinances**.

1. **Bill on agri marketFarmer's Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020**

Provisions

1. **To create an ecosystem where farmers and traders enjoy the freedom to sell and purchase farm produce** outside registered '**mandis**' under states' APMCs.
2. **To promote barrier-free inter-state and intra-state trade** of farmers' produce
3. **To reduce marketing/transportation costs** and help farmers in getting better prices
4. **To provide a facilitative framework for electronic trading**



2. **Bill on contract farming**

The Farmer (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020

Provisions

1. **Farmers can enter into a contract with agribusiness firms**, processors, wholesalers, exporters or large retailers for sale of future farming produce at a pre-agreed price
2. **Marginal and small farmers**, with **land less than five hectares**, to gain via aggregation and contract (Marginal and small farmers account for 86% of total farmers in India)
3. To transfer the risk of market unpredictability from farmers to sponsors
4. **To enable farmers to access modern tech** and get better inputs

5. To **reduce cost of marketing** and boost farmer's income.
6. Farmers can engage in direct marketing by eliminating intermediaries for full price realisation
7. Effective dispute resolution mechanism with redressal timelines.

3. **Bill relating to commodities**

The Essential Commodities (Amendment) Bill, 2020

Provisions

1. To **remove commodities like cereals, pulses, oilseeds, onion and potatoes from the list of essential commodities**. It will do away with the imposition of stockholding limits on such items except under "**extraordinary circumstances**" like war
2. This provision **will attract the private sector/FDI** into the farm sector as it will remove fears of private investors of excessive regulatory interference in business operations.
3. To bring investment for farm infrastructure like cold storages and modernising the food supply chain.
4. To help both farmers and consumers by bringing in price stability.
5. **To create a competitive market environment** and cut wastage of farm produce.

INDIA IN HCI 2020

India has been ranked at the 116th position in the **World Bank's annual Human Capital Index (HCI) 2020** that benchmarks **key components of human capital across countries**. However, **India's score increased to 0.49 from 0.44 in 2018**, as per the Human Capital Index report released by the World Bank on 16 September 2020. The 2020 Human Capital Index update includes **health and education data for 174 countries covering 98 per cent of the world's population up to March 2020**, providing a **pre-pandemic baseline on the health and education of children**, with the biggest strides made in low-income countries.

What shows in analysis?

1. The analysis shows that **pre-pandemic**, most countries had **made steady progress in building human capital of children**, with the biggest strides made in low-income countries.
2. Despite this progress, and even before the effects of the pandemic, a **child born in a typical country could expect to achieve just 56 per cent of their potential human capital**, relative to a benchmark of complete education and full health.
3. The pandemic puts at risk the decade's progress in **building human capital**, including the **improvements in health, survival rates, school enrollment, and reduced stunting**.
4. The **economic impact of the pandemic has been particularly deep for women** and for the **most disadvantaged families**, leaving many vulnerable to food insecurity and poverty.
5. **Protecting and investing in people is vital** as countries work to lay the foundation for sustainable, inclusive recoveries and future growth.
6. **Due to the pandemic's impact**, most children **more than 1 billion have been out**

of school and could lose out, on average, half a year of schooling, adjusted for learning, translating into considerable monetary losses.

7. Data also shows significant **disruptions to essential health services for women and children**, with many children **missing out on crucial vaccinations**.

8. Last year, **India had raised "serious reservations" over the Human Capital Index**, wherein **India was ranked 115 out of 157 countries**. This year **India finds itself at 116th** from among 174 countries.

9. The **impact of COVID-19, on developing countries particularly has been hard**, there is the collapse of the formal and informal market, and also there is a very limited **social safety net**, estimates a 12 per cent drop in employment.

10. There has been a **major decline in remittances and total income is going down by 11 or 12 per cent**. All this, is likely to have a disproportionate effect on the poor and on women. India is having **"severe impact" of COVID-19**.

Flashback

1. **First launched in 2018**, the **HCI measures the amount of human capital that a child born today can expect to attain by age 18**.
2. It conveys the productivity of the next generation of workers compared to a benchmark of complete education and full health.
3. **Worldwide a child born in 2020 can expect, on average, to be 56 percent as productive as she could be when she grows up**. All data represent the status of countries pre-COVID-19.
4. **A child born in India today will be 49 percent as productive** when she grows up as she could be if she enjoyed complete education and full health.
5. **This is higher than the average for South Asia region and Lower middle income countries**.

EPIDEMIC DISEASES (AMENDMENT) BILL PASSED

The **Rajya Sabha passed the Epidemic Diseases (Amendment) Bill 2020** that **provides for up to five years in jail for those attacking doctors and healthcare workers fighting the COVID-19 outbreak** or during any situation akin to the current pandemic. The **Epidemic Diseases (Amendment) Bill, 2020** replaced an ordinance issued by the government in April. The Union Cabinet had promulgated **The Epidemic Diseases (Amendment) Ordinance, 2020**, to **amend the Epidemic Diseases Act, 1897**, to protect healthcare service personnel and property, including their living/working premises against violence during epidemics.

What

1. The Bill intends to ensure that during any situation akin to the current pandemic, there is **zero-tolerance to any form of violence against healthcare service personnel** and damage to property.
2. The **healthcare service personnel include public and clinical healthcare service providers** such as doctors, nurses, paramedical workers and community health workers; any other persons empowered under the act to take measures to prevent the outbreak of the disease or spread thereof; and any persons declared as such by the state government, by notification in the official gazette.
3. The **penal provisions can be invoked in instances of damage to**

- property** including a clinical establishment, any facility identified for quarantine and isolation of patients, mobile medical units and any other property in which the healthcare service personnel have a direct interest in relation to the epidemic.
4. **Offences will be investigated by an officer of the rank of inspector within a period of 30 days**, and trial has to be completed in one year, unless extended by the court for reasons to be recorded in writing, the Bill proposes.
 5. As per its provisions, the commission or abetment of such acts of violence will be punishable with an imprisonment for a term of three months to five years, and with a fine of **₹50,000 to ₹2, 00,000**.

ITRA BILL 2020 PASSED

The **Rajya Sabha** on 16 September 2020 passed the **Institute of Teaching and Research in Ayurveda Bill 2020**, paving way to establish a **state-of-the-art Ayurvedic institution** which will be called the **Institute of Teaching and Research in Ayurveda (ITRA)** at Jamnagar, Gujarat. The **ITRA will be formed by merging the existing Ayurveda institutes** and will be conferred with the status of an **institution of national importance (INI)**.

What

1. The entities that will be merged include -- **Institute for Post Graduate Teaching and Research in Ayurveda, Shree GulabKunverba Ayurveda Mahavidyalaya, Institute of Ayurvedic Pharmaceutical sciences and MaharshiPatanjali Institute for Yoga Naturopathy Education & Research.**
2. These institutes had come up during the past decades, and collectively made a unique family of Ayurveda institutions existing in close proximity.
3. The synergies among the different constituent institutions will help ITRA to demonstrate high standards of such education and to emerge as a lighthouse institution to the entire AYUSH Sector.
4. **ITRA will be the first institution with INI status in the AYUSH Sector.**
5. The Bill was earlier passed in Lok Sabha on 19th March, 2020.

DAP 2020 UNVEILED

Defence Minister Rajnath Singh on 28 September 2020 unveiled the **new Defence Acquisition Procedure of 2020 (DAP 2020)**, which will govern the procurement of defence equipment from the capital budget. It will **supersede the Defence Procurement Procedure of 2016** from October 1. Taking its cue from the prime minister's **Atmanirbhar Abhiyan (self-reliance campaign)**, DAP 2020 reserves several procurement categories for indigenous firms. The **categories of Buy** (Indian designed, developed and manufactured), **Make I, Make II...** and SP model will be exclusively reserved for Indian vendors, MoD said.

What

1. **DAP 2020** defines an "**Indian vendor**" as a company that **is owned and controlled by resident Indian citizens**, with **foreign direct investment (FDI)** not more than 49 per cent.
2. The new policy introduces a significant new procurement category called "**Buy (Global-Manufacture in India)**."

3. This stipulates **indigenisation of at least 50 per cent of the overall contract value of a foreign purchase** — for example fighter aircraft — bought with the intention of subsequently building it in India with technology transfer.
4. Meeting the difficult indigenisation requirement would force the vendor to build the equipment in India, rather than supply most of it ready-built from abroad.
5. This category also **encourages vendors to set up facilities in India to manufacture spares** and assemblies for the basic equipment, and to set up **maintenance, repair, and overhaul (MRO) facilities**. With the **FDI cap recently raised to 74 per cent**, the foreign vendor could do this through a joint venture (JV) firm in India.
6. The new procedure **promotes greater indigenous content in arms and equipment of the military procures**, including equipment manufactured in India under licence. In most acquisition categories, **DAP-2020 stipulates 10 per cent higher indigenisation than DPP 2016**.
7. Indigenous content will now be calculated on **'Base Contract Price'**, that is **Total Contract Price, less taxes and duties**, stated the MoD.
8. The **"import embargo list"** of 101 items that the government promulgated last month has been specifically incorporated into DAP 2020.
9. The new policy seeks to **curb the long-running equipment trials** the military carries out on equipment offered for procurement.

MAKE-IN-INDIA PUSH

➤ New DAP seeks to empower domestic defence industry through **'Make in India'** initiative

➤ MoD officials say 15-year-old offsets policy **"loaded extra costs"** into contracts

➤ So, offsets will not be **applicable** in govt-to-govt, inter-governmental agreement & ab initio single-vendor deals

ASIIM LAUNCHED

An initiative was launched on 30 September 2020 by the government to **promote innovation and entrepreneurship amongst SC students in higher education campuses**. The programme named **Ambedkar Social Innovation Incubation Mission (ASIIM)** was launched by the Minister of Social Justice and Empowerment Thaawarchand Gehlot at an event in Delhi.

Aim and objectives of ASIIM

1. The ASIIM aims to **promote innovation and entrepreneurship among SC students in the higher education campuses**.
2. There is a **need to identify innovative ideas** and **provide focussed support to young entrepreneurs** who are engaged in working on innovative and technology-oriented business ideas either in educational campuses or **Technology Business Incubators (TBIs)** to help them set up successful commercial enterprises.
3. ASIIM launched through the **Venture Capital Fund for Scheduled Castes (VCFSC)**.
4. The **main objectives of ASIIM also include promoting entrepreneurship among the SC Youth with special preference to Divyangs**, supporting (1,000) innovative ideas till 2024 through a synergetic work with the **Technology Business Incubators**

- (TBIs) set up by Department of Science and Technology among others.
5. Under this initiative, 1,000 initiatives of SC youth would be identified through a systematic and transparent process in convergence with the technology business incubators and would fund them up to ₹30 lakh in a three year period as equity.
 6. The purpose is **to encourage the innovative students to take to innovation and entrepreneurship without seeking jobs.**
 7. Successful ventures would further qualify for venture funding of up to ₹5 Crore from the Venture Capital Fund for SCs.
 8. The ministry has decided to launch **ASIIM through the Venture Capital Fund for Scheduled Castes (VCFSC).**
 9. This initiative under **VCF-SC** will promote innovation in the SC youth and would help them to become job-givers from job-seekers; and would further give fillip to the '**Stand Up India**' initiative.

MEGA PROJECTS UNDER NAMAMI GANGE MISSION

Prime Minister on 29 September 2020 inaugurated **six mega projects in Uttarakhand** under the **Namami Gange Mission**. He also launched the **logo of Jal Jeevan Mission**, via video conferencing. The projects include **construction of a 68 MLD sewage treatment plant (STP)**, up-gradation of the existing 27 MLD plant at Jagjeetpur in Haridwar and **construction of an 18 MLD STP at Sarai in Haridwar**. The inauguration of **68 MLD Jagjeetpur project** also marks the completion of the **first sewerage project** taken up on hybrid annuity mode of **public-private partnership (PPP)** mode.

What

1. PM Modi said in **Prayagraj Kumbh**, the **serenity of Ganga** was experienced by devotees from all over the world and now during Haridwar Kumbh, the whole world is going to experience the bathing of the pure Ganga.
2. Today, work on projects worth **30 thousand crores under Namami Gange project** is going on or has been completed.
3. The government moved forward in **four directions simultaneously**. First, started laying a **trap of sewage treatment plants to prevent the dirty water falling into the Ganges**.
4. **Second, building sewage treatment plants that can meet the needs of the next 10-15 years.**
5. **Third, working towards making 100 big cities** and 5,000 villages situated on the banks of river Ganga open defecation free.
6. Fourth, **to put out pollution in the river Ganga and its tributaries.**
7. The Prime Minister also inaugurated "**Ganga Avalokan**", the **first museum on Ganga dedicated to showcasing the culture, biodiversity and rejuvenation activities** done in Ganga river.
8. The museum is located at **Chandi Ghat, Haridwar**.
9. A book, '**Rowing down the Ganges**', co-published by National Mission for Clean Ganga & Wildlife Institute of India launched at the event.

KOSI MEGA RAIL BRIDGE INAUGURATED

Prime Minister on 18 September 2020 **inaugurated the 1.9 km Kosi Mahasetu (mega-bridge)** along with **12 other railway projects across Bihar** through video-conferencing. The **Mega Bridge has been a much-awaited project for the people of Kosi and Mithilanchal regions** who have waited for **86 years**.

What is the Kosi Mahasetu

1. The **Kosi mega Railway Bridge constructed for Rs 516 crore** is strategically placed and gives **quick access to the Indo-Nepal border area** close to **Saharsa, Supaul and Araria districts** by linking them with the **Mithilanchal region**.
2. The **mega rail bridge** will also facilitate **long-distance travel benefits by train** for the people up to **Kolkata, Delhi and Mumbai**.
3. **In 1887, a meter gauge link was built in between Nirmali and Bhaptiahi (Saraigarh)** which was washed away during the heavy flood and severe Indo Nepal earthquake in 1934.
4. Thereafter due to the meandering nature of river Kosi no attempt was made to restore this Rail link for a long period.
5. The **Kosi mega bridge line project** was sanctioned by the Centre during **2003-04**.
6. The **Kosi rail mahasetu is 1.9 km long** and its construction cost is Rs. 516 Crore. This bridge is of **strategic importance along the India-Nepal border**.
7. The project was completed during the Covid-19 pandemic with **participation of the migrant labour in its completion**.

NMC CAME INTO FORCE

The **National Medical Commission (NMC)**, in place of the **Medical Council of India (MCI)**, for **development and regulation of all aspects of medical education and profession**, has been constituted and came into existence from 25 September 2020, a gazette notification said. With the NMC coming into being, the **Board of Governors (BoG)**, which **superseded the Medical Council of India (MCI)** on September 26, 2018, to perform its functions, will get dissolved and the nearly **64-year-old Indian Medical Council Act** will stand abolished.

What

1. The **four autonomous boards under the NMC Act** -- the **Under-Graduate Medical Education Board (UGMEB)**, **Post-Graduate Medical Education Board (PGMEB)**, **Medical Assessment and Rating Board** and the **Ethics and Medical Registration Board** -- have also been constituted.
2. In pursuance of the provisions of sub-section (1) of the section 60 of the **National Medical Commission Act, 2019**, the **Indian Medical Council Act, 1956 is hereby repealed** with effect from the 25th day of September, 2020.
3. The Board of Governors appointed under **section 3A of the Indian Medical Council Act, 1956** in supersession of the Medical Council of India constituted under sub-section (1) of section 3 of the said Act shall stand dissolved.
4. The NMC comprises a chairman, 10 ex-officio members and 22 part-time members.
5. The ex-officio members include presidents of the four autonomous boards.
6. The **NMC Act**, which seeks to **usher in mega reforms in the medical education**

sector, received the assent of the president on August 8 and was published the same day.

7. The **Act provided for setting up of an NMC** in place of the scam-tainted Medical Council of India.

INTERNATIONAL

INDIA JOINED DCOC/JA

India has joined the Djibouti Code of Conduct/ Jeddah Amendment (DCOC/JA), as an **Observer**. This was following the **high-level virtual meeting of the Grouping**. This comes amidst the growing tensions between India and China along the Line of Actual Control (LAC) in eastern Ladakh. The Indian Navy has picked up the increased presence of the Chinese navy in the **Indian Ocean Region (IOR)**. There is no term or duration laid out for being an Observer, and **India will work with the DCOC Member States for enhancing maritime security** in the **Western Indian Ocean Region**.

What

1. Joining the **DCOC/JA** will **further enable India's participation on a coordinated multilateral track**, and efforts to enhance maritime security would include assistance through training, capacity building, and information exchange.
2. This will **help in providing greater transparency in the maritime domain** by assisting in upgrading existing information sharing mechanisms and by connecting them to present a transparent and seamless maritime picture.
3. This is **not related to India's bilateral relations with Djibouti** or access to ports in Djibouti or any other country in the region.
4. The very fact that India requested **Observer status to the DCOC/JA** was **accepted by consensus** is indicative of her bilateral relations with the DCOC/JA member States along with the work done in enhancing maritime security in the region.

What is DCOC/JA?

1. **It is a grouping of 18 member states** which are **adjoining the Red Sea, Gulf of Aden, the East coast of Africa and Island countries in the Indian Ocean Region (IOR)**.
2. Aimed at repression of piracy and armed robbery against ships in the Western Indian Ocean Region, the **Gulf of Aden and the Red Sea**, the **DCOC was established in January 2009**.
3. The **Jeddah Amendment to DCOC came into effect during its meeting in January 2017**.
4. **India has now joined Japan, Norway, the UK and the US as Observer to the DCOC/JA**.

UNSC URGES TO HALT NAGORNO-KARABAKH FIGHTING

The **UN Security Council** called on **Armenia and Azerbaijan** on 29 September 2020 to **immediately halt fighting over the separatist territory of Nagorno-Karabakh** and urgently resume talks without preconditions. The UN's most powerful body strongly condemned the use of force and backed Secretary-General Antonio Guterres' earlier call to

immediately stop fighting, de-escalate tensions and return to meaningful negotiations without delay.

What

1. The **two neighbors have been locked in conflict over Nagorno-Karabakh**, a **region of Azerbaijan** that has been **under the control of ethnic Armenian forces backed by Armenia** since a war **there ended in 1994**. International efforts to settle the conflict have stalled, and clashes have been frequent.
2. The council expressed full support for “**the central role**” of the **Organization of Security and Cooperation in Europe**, which has been trying to mediate peace talks, and urged the sides “**to work closely with them for an urgent resumption of dialogue without preconditions.**”
3. **Five European council members — France, Germany, Britain, Belgium and Estonia** — asked for the closed council meeting following the upsurge in fighting. UN political chief Rosemary DiCarlo briefed members on the current situation.

What is this conflict about?

1. **Conflict in the Nagorno-Karabakh region** began following the **breakdown of the Soviet Union in the late 1980s** and **lasted till approximately 1994**, with both Armenia and Azerbaijan claiming this strategic territory.
2. At that time, the enclave of **Nagorno-Karabakh** had held a referendum boycotted by Azerbaijan where the people chose independence over joining either of the two countries.
3. The **conflict between ethnic Armenians and ethnic Azerbaijanis in Nagorno-Karabakh** reached a particular low with Armenia and Azerbaijan accusing each other of having instigated ethnic cleansing.
4. The situation worsened when the **Nagorno-Karabakh Autonomous Oblast**, an administrative unit, decided to vote to join Armenia given its large Armenian population.
5. By 1992, the violence had increased and thousands of civilians had been displaced, compelling international bodies to take notice.
6. **In May 1994**, Russia mediated a ceasefire between **Armenia and Azerbaijan**, but the conflict has continued for three decades, with instances of ceasefire violations and violence instigated from both sides.

ECONOMY

FCRA BILL PASSED

The **Foreign Contribution (Regulation) Amendment Bill, 2020** was passed by the Lok Sabha on 21 September 2020. The Bill seeks to make **it mandatory for office bearers of any non-governmental organisation (NGO) to provide their Aadhaar numbers** at the time of registration. Among other provisions, **the bill proposes to enable the Centre to allow a NGO or association to surrender its FCRA certificate**, reducing the cap on administrative expenses to **20 per cent from the current 50 per cent**.

What

1. It also **seeks to mandate the civil society organisations to have SBI accounts at the Delhi branch** to receive foreign funds, and prohibits one FCRA-registered society to transfer funds to another which is also recognised by the Act.

2. The **annual inflow of foreign contribution has almost doubled between the years 2010 and 2019**, but many recipients of foreign contribution have not utilised the same for the purpose for which they were registered or granted prior permission under the said Act.
3. This has led to a situation where the Central Government had to cancel certificates of registration of more than 19,000 recipient organisations, including non-Governmental organisations, during the period between 2011 and 2019.
4. The criminal investigations also had to be initiated against dozens of such non-Governmental organisations which indulged in outright misappropriation or mis-utilisation of foreign contribution.

CYBERSECURITY ISSUES IN UCBS

The **Reserve Bank** on 24 September 2020 **came out with a five-pillared strategic approach 'GUARD' to deal with cybersecurity threats** being faced by **urban cooperative banks (UCBs)**. The number, frequency and impact of cyber incidents and attacks have increased manifold in the recent past, more so in the case of the financial sector, including **UCBs**, RBI said in its document '**Technology Vision for Cyber Security for Urban Cooperative Banks 2020-2023**'. It has, therefore, become essential to enhance the security posture of UCBs to prevent, detect, respond to and recover from cyber-attacks, the central bank said.

What

1. The **five-pillared strategic approach 'GUARD' comprises Governance Oversight, Utile Technology Investment, Appropriate Regulation and Supervision, Robust Collaboration and Developing necessary IT and cybersecurity skills set.**
2. The **technology vision document**, which was formalised after obtaining inputs from various stakeholders, is aimed at enhancing the cybersecurity posture of UCBs against evolving IT and cyber threat environments.
3. The **12 specific action points suggested** in the document include -- more board oversight over cybersecurity; enabling UCBs to better manage and secure their IT assets; and setting up an offsite supervisory mechanism framework on cybersecurity-related controls.
4. It also includes **developing a forum for UCBs** so help them share best practices and discuss practical issues and challenges; and creating a framework for providing awareness/ training.
5. The implementation of the approach outlined in this **Technology Vision document** will strengthen the cyber resilience of the Urban Co-operative Banks.
6. **Use of information technology by banks has grown rapidly and is now an important part of the operational strategy of banks.**
7. In October 2018, the RBI had issued a circular prescribing **basic cybersecurity controls for all the UCBs.**

CENTRE'S WMA LIMIT FIXED

The **Reserve Bank of India (RBI)** on 30 September 2020 set the **ways and means advances (WMAs) limit at Rs 1.25 lakh crore** for the central government for the second half of the fiscal year. **WMAs are temporary advances given by the RBI to the**

government to tide over any mismatch in receipts and payments. It has been decided, in consultation with the Government of India, that the limits for **ways and means advances (WMA)** for the second half of the financial year 2020-21 (October 2020 to March 2021) will be Rs 1,25,000 crore.

What

1. The central bank further said it **may trigger fresh floatation of market loans** when the government utilises **75 per cent of the WMA limit**.
2. The Reserve Bank retains the flexibility to revise the limit at any time, in consultation with the Government of India, taking into consideration the prevailing circumstances.
3. The **interest rate on WMA is equal to the repo rate** and on overdraft, it is two per cent above the repo rate. The **current repo rate is 4 percent**.
4. Meanwhile, the finance ministry said the government will borrow Rs 4.34 lakh crore in the second half of the current fiscal to meet its expenditure requirement amid the COVID-19 crisis afflicting the country's economy.
5. With this, the government **will stick to the revised borrowing target of Rs 12 lakh crore borrowing for the current fiscal**. The government revised the borrowing target to Rs 12 lakh crore in May as against Rs 7.8 lakh crore approved in the Budget 2020-21.
6. The RBI said that **to help institutional and retail investors plan their investments efficiently**, an indicative calendar for issuance of the government dated securities for the second half of the fiscal year 2020-21 has been prepared. It will also provide transparency and stability to the government securities market.

What is Ways and Means Advances (WMA)?

1. It is a facility for both the Centre and states to borrow from the RBI.
2. These borrowings are meant purely to help them to tide over temporary mismatches in cash flows of their receipts and expenditures. In that sense, they aren't a source of finance per se.
3. **Section 17(5) of the RBI Act, 1934** authorises the central bank to lend to the Centre and state governments subject to their being repayable "**not later than three months from the date of the making of the advance**".

SCIENCE AND TECHNOLOGY

HYDROGEN FUEL CELL VEHICLES

The government on 24 September 2020 said it has **notified standards for safety evaluation of hydrogen fuel cell-based vehicles**. The **Ministry of Road Transport and Highways (MoRTH)** has issued a notification in this regard. The **Ministry of Road Transport and Highways** has notified the **Standards for Safety Evaluation of vehicles being propelled by Hydrogen Fuel cells** through an amendment to **Central Motor Vehicles Rules 1989**, dated 23rd September, 2020.

What

1. **This would facilitate the promotion of hydrogen fuel cell-based vehicles** in the

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country, which are **energy-efficient and environmentally friendly**.

2. The prospective manufacturer and suppliers of such vehicles have the standards available for the testing of such vehicles.
3. These standards are also at par with the available international standards.

How does the hydrogen fuel cell work?

1. At the heart of the **fuel cell electric vehicles (FCEV)** is a **device that uses a source of fuel, such as hydrogen, and an oxidant to create electricity** by an electrochemical process.
2. Put simply, the **fuel cell combines hydrogen and oxygen to generate electric current, water being the only byproduct**.
3. Like conventional batteries under the bonnets of automobiles, **hydrogen fuel cells convert chemical energy into electrical energy**.
4. From a long-term viability perspective, FCEVs are billed as vehicles of the future, given that **hydrogen is the most abundant resource in the universe**.

‘FELUDA’ TEST APPROVED

The **Drugs Controller General of India (DCGI)** approved **‘Feluda’**, the **Tata Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) test** powered by the **CSIR-IGIB**, for commercial launch, Union Ministry of Science and Technology’s CSIR has said in a statement. The test was approved as per the guidelines set by the **Indian Council of Medical Research (ICMR)**, which has been spearheading the battle against COVID-19 in India. The test met high quality benchmarks, and was found to have **96% sensitivity** and **98% specificity** for the detection of novel coronavirus.

What

1. The test makes use of an indigenous, **“cutting-edge” CRISPR technology** to detect the genomic sequence of the coronavirus.
2. The **newly approved test is the first diagnostic test in the world to deploy a specially-adapted Cas9 protein** for the successful detection of SARS-CoV-2, the novel coronavirus which causes COVID-19.
3. This was a significant achievement on the part of the scientific community in India, since the team did everything from the research to the development of a scalable, reliable and high-accuracy test within less than 100 days.
4. The **‘Feluda’ or Tata CRISPR test** can achieve the same accuracy levels as those of the traditional and widely used **RT-PCR tests**, while having a quicker turn-around time, being easier to use and requiring less expensive equipment.
5. The test was developed due to the scientific community and the industry working in tandem, with the **Tata Group working closely with ICMR and CSIR-IGIB** for the development of a high-quality test.

AHSP PINAKA ROCKET SYSTEM

In an important milestone in the induction of the **Pinaka rocket system in the Armed forces**, the **Defence Research and Development Organisation (DRDO)** handed over the **Authority Holding Sealed Particulars (AHSP)** of the system to the **Directorate General of Quality Assurance (DGQA)** of the Ministry of Defence on 25 September 2020.

The handing over ceremony was held at **Armament Research and Development Establishment (ARDE)**, a DRDO facility in Pune.

What

1. The **AHSP transfer marks successful streamlining of production processes of Pinaka rockets**, its launchers, battery command posts, loader-cum-replenishment and replenishment vehicles as well as successful establishment of quality assurance processes.
2. At the ceremony, documentation required by various production agencies, quality assurance agencies, maintenance agencies and users were formally handed over by three DRDO facilities – ARDE, **High Energy Material Research Laboratory (HEMRL)** and **Vehicles Research and Development Establishment (VRDE)** – to **Controllerate of Quality Assurance (Ammunition)**.
3. The ceremony was held for **Pinaka's mark-1 version**, which is a free flight artillery rocket system having a **range of 37.5 km**.
4. Pinaka rockets are launched from a multi-barrel rocket launcher that is capable of launching a salvo of 12 rockets in 44 seconds.
5. Till date, **the Army has four regiments of the system**. But now, the production and other processes are at such a matured stage that all its attributes can be handed over to the DGQA to handle.

Flashback

1. The **Pinaka weapon system, named after God Shiva's bow**, is designed and developed by ARDE in association with **HEMRL, VRDE** and **Centre for Artificial Intelligence and Robotics (CAIR)**.
2. Pinaka rockets and its ground systems are currently under bulk production at Ordnance Factories, BEML, BEL, Tata Power and L&T Defence.
3. The Ministry of Defence recently announced that its acquisition wing has signed contracts with three Indian companies for supply of **six regiments of Pinaka Rocket System**, which will be deployed along the border with Pakistan and China.

JIMEX-2020 BEGINS IN ARABIAN SEA

Indian Navy and Japanese Maritime Self-Defense Force (JMSDF) ships conducted operations in close formation at **JIMEX-2020**, the **4th edition of India-Japan Maritime bilateral exercise**. It is being held in the **North Arabian Sea** from September 26 to 28. The **4th edition of India-Japan maritime bilateral exercise JIMEX**, which is conducted **biennially** between the Indian Navy and Japanese Maritime Self-Defense Force (JMSDF), held in the North Arabian Sea from 26 to 28 September 2020.

About JIMEX 2020

1. **JIMEX series of exercises commenced in January 2012** with a **special focus on maritime security cooperation**.
2. The last edition of JIMEX was conducted in **October 2018 off Visakhapatnam**, India.
3. Naval cooperation between India and Japan has increased in scope and complexity over the years.
4. **JIMEX 20 will showcase a high degree of inter-operability and joint operational skills** through the conduct of a multitude of advanced exercises, across the spectrum

of maritime operations.

5. **Multi-faceted tactical exercises** involving **weapon firings, cross deck helicopter operations and complex surface, anti-submarine and air warfare drills** will consolidate coordination developed by the two navies.
6. JIMEX 20 is being conducted in a '**non-contact at-sea-only format**', in view of COVID-19 restrictions.

ICMR'S 2ND SERO SURVEY RESULTS

One in 15 individuals aged more than 10 years were estimated to be exposed to the Covid-19 by August 2020, according to **ICMR's second national sero survey** report released on 29 September 2020. The survey showed that a **considerable population is still vulnerable and susceptible to the coronavirus infection.**

Key findings of the sero survey

1. **Urban slum and urban non-slum areas had higher SARS-CoV-2 infection prevalence** than that of the rural areas in the country.
2. Of 29,082 people surveyed from August 17 to September 22, 6.6 per cent showed evidence of past exposure to Covid-19.
3. Lower infection to case ratio in August compared to May reflects substantial increase in testing, detection.
4. **7.1 per cent of the adult population showed evidence of past exposure** to Covid-19.
5. In the light of the upcoming festivities, winter season and mass gathering, inventive containment strategies need to be implemented by the states.
6. The survey was conducted in the same 700 villages/wards (in urban) from 70 districts from 21 states covered during the first survey.
7. Since a large proportion of the population is yet susceptible - prevention fatigue to be avoided and **5T strategy (Test, track, trace, treat, technology)** to be followed.

FRANCE TO TAKE PART IN VENUS MISSION

Isro is scheduled to launch its **Venus mission in 2025** and **France will participate in it**, French space agency **CNES** said on 30 September 2020. The **VIRAL (Venus Infrared Atmospheric Gases Linker)** instrument **co-developed with the Russian federal space agency Roscosmos** and the **LATMOS atmospheres, environments and space observations laboratory** attached to the French national scientific research centre CNRS has been selected by the Isro after a request for proposals.

What

1. In the domain of space exploration, **France will be taking part in Isro's mission to Venus**, scheduled to launch in 2025.
2. CNES will coordinate and prepare the French contribution, the **first time a French payload will be flown on an Indian exploration mission.**
3. After the **Mars Orbiter Mission (Mangalyaan)** and **Moon missions Chandrayaan-1 and 2**, Isro has set its eyes on Venus for carrying out its inter-planetary mission.
4. **France and India** share a robust collaboration in the arena of space. **It is one of the three nations with whom India collaborates in the strategic sectors of nuclear,**

space and defence -- the other two being the **US and Russia**.

5. In March 2018, the two countries also issued a '**Joint Vision for Space Cooperation**'.
6. India and France are also working on **Isro's human space mission Gaganyaan project**, which aims to send three Indians to space by 2022.

BRAHMOS SUCCESSFULLY TEST-FIRED

India was successfully test-fired **BrahMos supersonic cruise missile** with a **strike range of more than 400 km from a base in Odisha** on 30 September 2020. The launch of the state-of-the-art missile from the **Integrated Test Range (ITR)** at Chandipur was successful, Defence Research and Development (DRDO) sources said.

What is the importance of today's BrahMos test?

1. The missile can be **launched from land, sea platforms as well as fighter jets**.
2. India and Russia have adhered to the **Missile Technology Control Regime (MTCR)**, which prohibits the transfer of missiles, or missile technology, with **ranges beyond 300 km to non-member states**.
3. However, with India having **become a MTCR member country in 2016**, New Delhi is less stringently bound by technology transfer rules.
4. The **first extended version of the missile**, which had a **strike range of 450 km**, was successfully tested on March 11, 2017.
5. On **September 30, 2019** a shorter range **land version of BrahMos** was successfully test fired from Chandipur ITR.
6. **Jointly developed by the DRDO and NPOM**, a leading aerospace enterprise of Russia, the **BrahMos missile is a medium-range ramjet supersonic cruise missile** capable of being launched from submarines, warships, fighter jets or land.
7. The missile, **already operational with the Indian Army, Navy and Air Force**, is **regarded as the fastest supersonic cruise missile in the world**.
8. The **Booster and Airframe section** which have been made locally passed the tests. This means **these are now ready to go on for serial production in India**.
9. In **June this year**, the **BrahMos air-launched cruise missile (ALCM) had received its first-ever Fleet Release Clearance (FRC)**, which was expedited due to the ongoing tensions along the Line of Actual Control between India and China.
10. This is the **first-ever supersonic and advanced ALCM system** which has been made locally in India in a joint venture with Russia which received such a certification.

FLIGHT TEST OF ABHYAS

The **Defence Research and Development Organisation (DRDO)** on 22 September 2020 conducted a **successful flight test of ABHYAS - High-speed Expendable Aerial Target (HEAT)** from the Interim Test Range, Balasore in Odisha. During the trials, **two demonstrator vehicles were successfully test flown**, according to government sources. The **vehicle can be used as a target for evaluation of various missile systems**.

What

1. Abhyas is designed and developed by **Aeronautical Development Establishment**,

DRDO.

2. The DRDO achieved a milestone today with the successful flight test of ABHYAS - **High Speed Expandable Aerial Target**.
3. The air vehicle is launched using twin underslung boosters.
4. It is **powered by a small gas turbine engine** and has **MEMS based Inertial Navigation System for navigation** along with the Flight Control Computer for guidance and control.
5. The vehicle is programmed for fully **autonomous flight**.
6. The check-out of the air vehicle is done **using a laptop-based Ground Control Station**.
7. During the test campaign, the user requirement of **5km flying altitude**, vehicle **speed of 0.5 mach**, endurance of 30 minutes and 2g turn capability of the test vehicle were successfully achieved.

LASER-GUIDED ATGM SUCCESSFULLY TEST FIRED

The **Defence Research and Development Organisation (DRDO)** on 23 September 2020 successfully test fired the indigenously developed **Laser Guided Anti Tank Guided Missile (ATGM)** from **Main Battle Tank (MBT) Arjun** at **KK Ranges in Ahmednagar in Maharashtra**.

What

1. The missile uses a warhead that has the **capability to neutralise armoured vehicles** which have Reactive Armours, which are specially designed protective armours used in military vehicles.
2. **Lasers guided ATGMs lock and track the targets** with the help of laser designation to ensure precision hit accuracy.
3. **The missile employs a tandem HEAT warhead to defeat Explosive Reactive Armour (ERA)** protected armoured vehicles.
4. It has been developed with multiple-platform launch capability and is currently undergoing technical evaluation trials from the gun of MBT Arjun.
5. Pune based DRDO facilities – **Armament Research & Development Establishment (ARDE) Pune** and the **High Energy Materials Research Laboratory (HEMRL)** — have developed the missile in collaboration with another **DRDO laboratory Instruments Research & Development Establishment (IRDE)** in Dehradun.
6. On 22 September 2020, the **DRDO had also conducted the successful flight test of ABHYAS—High-speed Expandable Aerial Target (HEAT)**.
7. The flight test was done from the Interim Test Range, Balasore in Odisha. This vehicle can be used as a target for evaluation of various missile systems.

INDIA'S FIRST AIRLINE TO OFFER IN-FLIGHT WI-FI

Vistara has started offering in-flight Wi-Fi internet on Boeing 787-9 Dreamliners. The offer is effective from 18 September 2020 on flights between Indira Gandhi International Airport (Del) in Delhi and London Heathrow (LHR). With this, **Vistara has become the first Indian airline to offer the service**. As part of **Vistara's introductory offer the service will be available free of cost to all flyers for a limited period**. Vistara is

also planning to introduce the **in-flight Wi-Fi internet service** on its Airbus A321neo aircraft as well.

MISCELLANEOUS

'PI PLANET' DISCOVERED

Scientists at the **Massachusetts Institute of Technology (MIT)**, along with others, have **discovered an earth-sized "Pi Planet"** that **revolves around its star every 3.14 days**. The **orbit of the planet**, which the scientists suspect is likely not hospitable as its tight orbit brings the planet close enough to its star to heat its probably terrestrial surface up to **450 Kelvins**, or around **350 degrees Fahrenheit**, is reminiscent of the universal mathematics constant.

What

1. The researchers discovered signals of the planet in data taken in 2017 by the **National Aeronautics and Space Administration (NASA) Kepler Space Telescope's K2 mission**.
2. By zeroing in on the system earlier this year with SPECULOOS, a network of ground-based telescopes, the team confirmed that the signals were of a planet orbiting its star.
3. The **new planet is labeled K2-315b**; it is the **315th planetary system discovered within K2 data**.
4. According to the researchers estimate, K2-315b has a radius of 0.95 that of Earth's, making it just about Earth-sized.
5. It orbits a cool, low-mass star that is about **one-fifth the size of the sun**. The planet circles its star every 3.14 days, at 81 kilometers per second, or about 181,000 miles per hour.
6. The scientists suspect that **K2-315b is terrestrial**, like the Earth, although its proximity to its star would make it too hot for life to exist.
7. The researchers are members of **SPECULOOS (The Search for habitable Planets EClipsing ULtra-cOOl Stars)**, named for a network of four 1-meter telescopes in Chile's Atacama Desert, which can scan the sky in the Southern hemisphere.
8. The network had recently added a fifth telescope, the first in the Northern hemisphere, named **Artemis**.

WORLD MARITIME DAY

World Maritime Day is observed on 24 September to mark the contribution of international maritime industries towards the economy of the world especially shipping. Every year the **International Maritime Organization (IMO)** celebrates **World Maritime Day**. It aims to raise awareness about the **importance of shipping safety, maritime security, and the marine environment**.

Theme of World Maritime Day

1. The **theme for 2020 World Maritime Day** is "**Sustainable shipping for a sustainable planet**".
2. This theme is to **focus on providing an opportunity to raise awareness of the United Nations' Sustainable Development Goals (SDGs)**.

3. The shipping industry, with the support of the IMO regulatory framework, has already started the transition towards this sustainable future.
4. The **Covid-19 pandemic has highlighted the professionalism and sacrifice of the two million seafarers** who serve on the world's merchant fleet.
5. Shipping has continued to transport more than **80% of world trade**, including vital medical supplies, food, and other basic goods that are critical for the Covid-19.
6. **Hundreds of thousands of seafarers face a humanitarian crisis** as they have been stranded at sea, unable to get off the ships they operate with contracts extended by many months.

Flashback

1. **World Maritime Day was first held on 17 March 1978, to mark the date of the IMO Convention's entry into force in 1958.**
2. **The IMO's original name was the Inter-Governmental Maritime Consultative Organization (IMCO) but the name was changed in 1982 to IMO.**
3. **UNESCO adopted the Convention on the Protection of the Underwater Cultural Heritage in 2001.**
4. **Currently ratified by 61 countries, but not yet by India**, this international treaty encourages state parties to better research, identify and conserve underwater cultural heritage through appropriate legal and scientific measures.

SHANTI SWARUP BHATNAGAR AWARD

Fourteen scientists from noted national research and academic institutions including IITs, Homi Bhabha Research Institute and Indian Statistical Institute have been selected for the **Shanti Swarup Bhatnagar (SSB) Award 2020**.

What

1. Every year, **scientists below 45 are chosen for the SSB Award** for their **contribution across fields including biology, chemistry, engineering, Mathematics, medicine, physics, Earth sciences, atmospheric science, and ocean and planetary sciences.**
2. The award has a cash prize of Rs 5 lakh.
3. The **2020 list of awardees** was announced on 26 September 2020 on the **occasion of the 79th foundation day of the Council of Scientific and Industrial Research**, observed on September 26.
4. The recipients include **Bushra Ateeq from the Department of Biological Sciences and Bioengineering at IIT-Kanpur**, who is a **cancer researcher**.
5. Her work focuses on understanding the progression of the disease and biomarkers, especially in prostate and breast cancer.

H-CNG ALLOWED AS ALTERNATIVE CLEAN FUEL

The **Union road transport and highways ministry** has notified **hydrogen-enriched compressed natural gas (CNG)** as an automobile fuel on 28 September 2020. An **ideal blend of 18% hydrogen in CNG** can be used as automotive fuel after compression.

This **can lower emissions**, and **promote green fuel for automobiles in the country**. It can also **reduce carbon monoxide emission by 70%**.

What

1. The **Hydrogen Compressed Natural Gas (H-CNG)** is a mixture of compressed natural gas and **4-9 percent hydrogen by energy**.
2. It can be used as a fuel in an internal combustion engine and also for home appliances.
3. **Using H-CNG (18% mix of hydrogen)** certain CNG engines have been tested to understand the emission reduction **using H-CNG compared with 'neat' CNG**, the **Bureau of Indian Standards (BIS)** has developed specifications of hydrogen enriched CNG as automotive fuel.
4. The Transport ministry has been **trying to push adoption of electric mobility as well as clean**, alternative fuels, **including ethanol, methanol, bio diesel**, as one of its ways to reduce pollution and **cut the massive fuel import bill**.
5. **Ethanol can be also derived from rice**. By doing this, we can save on the import bill as ethanol can be used to run cars and buses.
6. A notification for amendments to the **Central Motor Vehicles Rules, 1989**, for **inclusion of H-CNG as an automotive fuel** has been published vide GSR 585 (E) dated September 25, 2020, by the ministry.
7. The draft rules in this respect were made available to the public. No objections and suggestions were received from the public in this respect, the ministry said in a press statement.