

My Notes....

NATIONAL

PMKVY 3.0 LAUNCHED

The government on 15 January 2021 launched the **third phase** of its flagship skilling scheme **Pradhan Mantri Kaushal Vikas Yojana (PMKVY 3.0)** in a bid to **empower the country's youth with employable skills** by making over 300 skill courses available to them. **PMKVY 3.0 envisages training 8 lakh candidates** over the **scheme period of 2020-2021** with an outlay of Rs 948.90 crore.

What

- The third phase of the scheme is designed towards **making skill development more demand-driven** and **decentralised in its approach**, with focus on **digital technology** and **Industry 4.0 skills**.
- In the third phase, **District Skill Committees (DSCs)**, under the guidance of **State Skill Development Missions (SSDM)**, shall play a key role in addressing the skill gap and assessing demand at the district level.
- Launched in 717 districts, 28 states/8 UTs**, PMKVY 3.0 marks yet another step towards '**Atmanirbhar Bharat**'.
- PMKVY 3.0** will be implemented in a **more decentralized structure** with greater responsibilities and support from states/UTs and districts, the Ministry of Skill Development and Entrepreneurship said.
- The role of **PMKVY 3.0 will be of a propagator of vocational education** at an early level for youth to capitalize on industry-linked opportunities.
- The new scheme will be **more trainee- and learner-centric** addressing the ambitions of aspirational Bharat.
- PMKVY 2.0 broadened the skill development with inclusion of Recognition of Prior Learning (RPL)** and focus on training.

Flashback

- Pradhan Mantri Kaushal Vikas Yojana (PMKVY)** was **launched in 2015** to encourage and **promote skill development** in the country by providing free short duration skill training and incentivizing this by providing monetary rewards to youth for skill certification.
- The overall idea is to **boost both industry and employability of youths**. During its pilot phase in 2015-16, 19.85 lakh candidates were trained.
- After the successful implementation of pilot PMKVY (2015-16), **PMKVY 2016-20** was launched by scaling up both in terms of Sector and Geography and by greater alignment with other missions of Government of India like **Make in India, Digital India, Swachh Bharat**, etc.

LIGHT HOUSE PROJECT UNDER GHTC-INDIA

Prime Minister on 1 January 2020 laid the **foundation of six Light House Projects**, as part of the **Global Housing Technology Challenge-India (GHTC-India) initiative**, in **Indore, Rajkot, Chennai, Ranchi, Agartala and Lucknow** via videoconference. **About 1,000 houses at each location** are to be constructed in a year, using **six distinct technologies** from a **basket of 54 such technologies** shortlisted under the **GHTC-India, 2019**.

What

1. The Prime Minister said the **country was getting new technologies** for providing **resilient, affordable and comfortable houses** to the poor and the middle class.
2. The **cooperation extended by the States in the projects** was in a way strengthening **cooperative federalism**.
3. The **GHTC provided the scope of incubating new technologies** for construction and innovating and called upon **planners, architects and students from various universities and institutions to visit sites**, learn from the technologies and mould them for use in accordance with local requirements.
4. Other government's schemes would also be linked to these projects to provide facilities such as **water supply, electricity and LPG connection** to the beneficiaries.

Which technology?

1. **In Indore, prefabricated sandwich panel system technology** would be used, while in **Rajkot, through tunnelling, monolithic concrete construction system** from France was being employed.
2. **Precast concrete technology** from the U.S. and Finland **would be used for the construction of affordable houses in Chennai**, and in **Ranchi**, the project would be implemented through the **3-D technology from Germany**.
3. **In Agartala, the steel-frame technology** would be used for **constructing earthquake resistant houses** and **pre-constructed wall technology from Canada** would be used in **Lucknow**.

INDIA'S FIRST 'ECO-FRIENDLY' PAINT

India now has **its own cow dung paint**. Among the country's several innovative inventions, this unique paint certainly takes the cake. **Nitin Gadkari**, the Union Minister for Road Transport & Highways and MSME, launched the new paint, the country's first, on 12 January 2021. The **paint has been developed by the Khadi and Village Industries Commission**.

What is it?

1. The **'Khadi Prakritik Paint'** is a **first-of-its-kind product** which is being touted as **eco-friendly and non-toxic**, with **anti-fungal and anti-bacterial** properties.
2. With **actual cow dung as its main ingredient**, the paint is said to be cost-effective and also odourless. It has also been **certified by the Bureau of Indian Standards**.

3. Khadi Prakritik Paint will be available in two forms — **distemper** and **plastic emulsion**.
4. The paints have been tested at **three national laboratories: National Test House, Mumbai; Shri Ram Institute for Industrial Research, New Delhi and National Test House, Ghaziabad.**
5. The paint has successfully passed various test parameters such as **application of paint, thinning properties, drying time**, and finish, among others.

Flashback

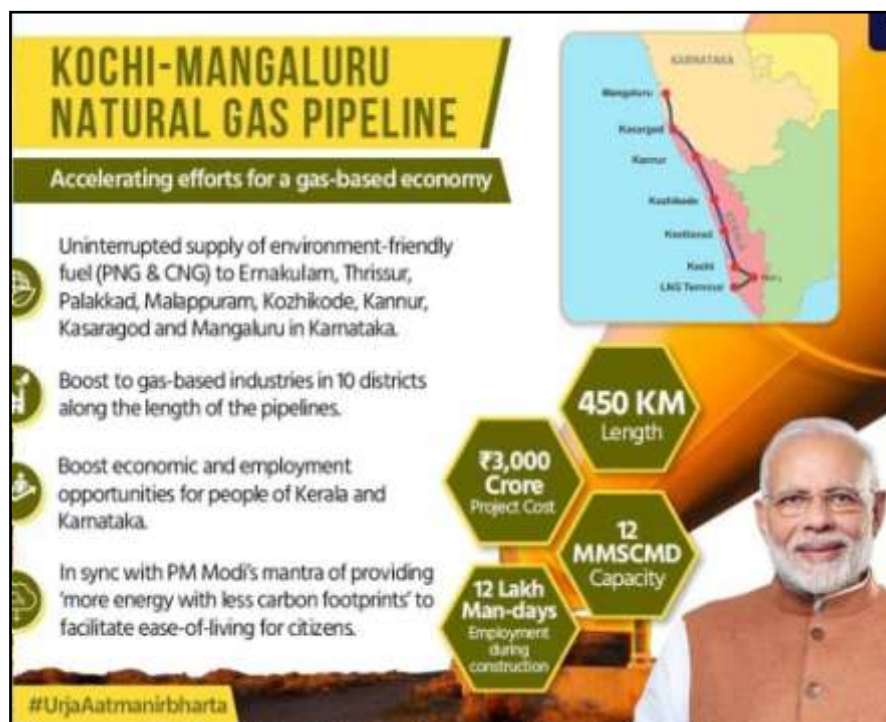
1. This is not the first time cow refuse has been used to manufacture an everyday product.
2. **Incense sticks made of cow dung** are already available in the market.
3. In 2015, an **Allahabad-based 'gaushala' had developed a natural disinfectant** from cow urine.
4. It was called '**Gauashish Phenyl**' in Allahabad and surrounding districts, with the same 'anti-microbial and anti-fungal properties' purportedly synonymous with cow waste and neem.
5. In **October 2019**, Gadkari had launched **cow dung soaps** made by the **Khadi and Village Industries Commission**.

450-KM PNG INAUGURATED

Prime Minister on 5 January 2021 inaugurated the **450-km natural gas pipeline** from **Kochi to Mangaluru**. Centre's plan envisages **more than double the share of cleaner natural gas** in the **consumption basket, diversifying sources of energy, connecting the nation with one gas pipeline grid** and bringing affordable fuel to people and industry.

What

1. The pipeline was laid using a **special technique** called **horizontal directional drilling method**. Its construction created over 12 lakh man-days of employment.
2. India is focusing on **gas-based economy** and lot of work is being done on '**One Nation, One Gas Grid**'. The gas-based economy is also crucial for **Atmanirbhar Bharat**.



3. The **450 km long pipeline** has been **built by GAIL (India) Ltd.**
4. It has a **transportation capacity of 12 million metric standard cubic metres per day** and will carry natural gas from the **liquefied natural gas (LNG) Regasification Terminal at Kochi (Kerala)** to Mangaluru (Dakshina Kannada district, Karnataka), while passing through Ernakulam, Thrissur, Palakkad, Malappuram, Kozhikode, Kannur and Kasaragod districts.
5. It will also **supply natural gas to commercial and industrial units** across the districts along the pipeline.

RECOMMENDATIONS ON WOMEN'S MARRIAGE AGE

A **task force constituted last year** by the government to **examine its proposal of increasing the age of marriage for women** has submitted its report, **recommending an increase in the age from 18 to 21**. According to highly placed sources in the government, the task force, led by former Samata Party chief **Jaya Jaitly** and NITI Aayog Member (Health) V.K. Paul, **submitted its report** to the **Prime Minister's Office** and the **Ministry of Women and Child Development (WCD)** last month.

What

1. The report recommends an **increase in the age from 18 to 21**, but in a **phased manner**, that means **states should be given enough space and time** to do the groundwork for such a legislation, since it cannot be done overnight.
2. The report says evidence shows that **delay in marriage has positive economic, social and health effects** for families, women, children and the society at large.
3. Further, the report argues that studies — based on **evidence from 50-plus low and middle income countries** to find the association of maternal age with infant mortality, **child anthropometric failure, diarrhoea and anaemia for first births** — show that the risk declines after age 21.
4. The task force has stated that the **focus should be on sex counselling and sex education**, instead of adopting a judgmental view of sex.
5. The task force has recommended that the **Karnataka model should be studied closely before making child marriages void**.
6. In 2017, the Karnataka government passed the **Prohibition of Child Marriage (Karnataka Amendment) Act, 2016**, declaring all marriages between minors void “ab initio” (starting from the beginning).

Previous debates

1. In 2019, The **WCD ministry** was exploring a proposal to standardise the minimum age for marriage at 18 years for both men and women under the **Prohibition of Child Marriage Act (PCMA), 2006**.
2. Similarly, the **Law Commission, in 2008**, had recommended a **uniform age of marriage for boys and girls at 18 years**, and not 21.
3. In 2018, the **National Human Rights Commission** had also recommended that there should be a **uniform age of marriage for boys and girls**.

- The **task force, constituted in June last year**, consisted of secretaries of the health and family welfare, women & child development (WCD), higher education, school education & literacy ministries, and the Legislative Department of the Ministry of Law and Justice.

SC CLEARED CENTRAL VISTA PROJECT

The **Supreme Court (SC)** on 5 January 2020 **allowed the central vista project to go ahead**. A Bench of Justices A M Khanwilkar, Dinesh Maheshwari and Sanjiv Khanna pronounced the **2-1 judgment**, with Justice Khanwilkar and Justice Maheshwari forming the majority. Justice Khanna pronounced a separate judgment.

The central vista project

- The project **aims to renovate and redevelop 86 acres of land in Lutyens's Delhi**, in which the **landmark structures of the Indian government**, including **Parliament House, Rashtrapati Bhavan, India Gate, North Block and South Block**, etc. stand.
- The redeveloping the nation's administrative heart was announced by the **Ministry of Housing and Urban Affairs** on 13 September 2019.
- A **petition** was filed in the **Supreme Court in April 2020**, challenging the **Centre's change-of-land-use notification of March 2020** with regard to the **86 acres of land**.
- The petitioner, **Rajeev Suri**, submitted that the order violated the **citizen's Right to Life guaranteed under Article 21** by depriving people of **open and green spaces**.
- The petition also argued that the notification **violated the Master Plan of Delhi 2021**, and that the Centre's notification sought to override an earlier (December 2019) notice issued by the **Delhi Development Authority** inviting objections against the proposed changes in land use, which was itself under challenge in the top court at the time.
- Subsequently, the court heard the challenge on **three main grounds: change of land use; violations of municipal law; and violations of environmental law**.
- During final hearings in October and November 2020, **several top lawyers appeared in the case**. The court reserved its judgment on 5 November 2020.

History of Lutyens's Delhi

- At his coronation as Emperor of India on **12 December 1911**, Britain's King **George V** had announced, "We have decided upon the transfer of the seat of the Government of India from Calcutta to the ancient Capital of Delhi."
- Thereafter, a **20-year-long project to build modern New Delhi** was spearheaded by architects **Edwin Lutyens** and **Herbert Baker**.
- They built **Parliament House, Rashtrapati Bhavan, North and South Blocks, Rajpath, India Gate, National Archives** and the princes' houses around India Gate.
- New Delhi was unveiled in 1931**.

INTERNATIONAL

INDIA TO CHAIR SUBSIDIARY BODIES OF UNSC

India has been asked to **Chair three important Committees of the Security Council**, which includes **Taliban Sanctions Committee, Counterterrorism Committee, and the Libyan Sanctions Committee**, said Ambassador of India to UN TS Tirumurti on 8 January 2021.

What

1. The **Taliban Sanctions Committee**, also called the **1988 Sanctions Committee**, has always been a **high priority for India**.
2. Chairing this Committee at this juncture **will help keep the focus on the presence of terrorists and their sponsors**, threatening the peace process in Afghanistan.
3. India will also chair the **Counterterrorism Committee in 2022**, which coincides with the **75th Anniversary of India's Independence**.
4. The **chairing of this Committee has a special resonance for India**, which has not only been at the **forefront of fighting terrorism**, especially **cross-border terrorism** but has also been one of its biggest victims.
5. This **Committee was formed in September 2001** soon after the tragic **terrorist attack of 9/11 in New York**, while India had chaired this Committee in the Security Council in 2011-12.
6. The **Libya Sanctions Committee**, also called the **1970 Sanctions Committee**, is a very important **Subsidiary Body of the Council**, which implements the sanctions regime, including a two-way arms embargo on Libya, an assets freeze, a travel ban, measures on illicit export of petroleum, etc.

Flashback

1. **India won the eighth term** in an election last June securing 184 of the 192 votes cast.
2. It was **last on the council in a two-year term ending 2012**.
3. Its previous terms were **1950-1951, 1967-1968, 1972-1973, 1977-1978, 1984-1985** and **1991-1992**.

INDIA, PAKISTAN EXCHANGE NUCLEAR INSTALLATIONS

India and Pakistan on 1 January 2021 **exchanged a list of their nuclear installations** under a **bilateral arrangement** that **prohibits the two countries from attacking each other's atomic facilities**. The two countries **exchanged the list of nuclear installations and facilities** covered under the Agreement on the Prohibition of Attack against Nuclear Installations and Facilities between India and Pakistan, the Ministry of External Affairs (MEA) said.

What

1. This was done simultaneously through diplomatic channels in New Delhi and Islamabad.
2. The **agreement was signed on 31 December 1988** and it came into force on 27 January 1991.

3. The pact mandates the two countries to inform each other of the nuclear installations and facilities to be covered under the agreement on the first of January of every calendar year.
4. This is the **30th consecutive exchange of the list** with the first one taking place on 1 January 1992.

ETHIOPIA'S DAM ON RIVER NILE

Ethiopia, Sudan and Egypt agreed on 4 January 2020 to **resume negotiations to resolve** their decade-long **complex dispute over the Grand Renaissance Dam hydropower project** in the **Horn of Africa**. The latest round of talks comes six weeks after Sudan had boycotted the ongoing negotiations.

What is the dispute about?

1. The **Nile, Africa's longest river**, has been at the **center of a decade-long complex dispute** involving several countries that are dependent on the river's waters.
2. At the forefront of this dispute is **Ethiopia and Egypt**, with Sudan having found itself dragged into the issue?
3. **Spearheaded by Ethiopia**, the **145-meter-tall** (475-foot-tall) **Grand Renaissance Dam hydropower project**, when completed, will be Africa's largest.
4. The **main waterways of the Nile run through Uganda, South Sudan, Sudan and Egypt**, and its drainage basin runs through several countries in **East Africa**, including Ethiopia, the portion where this dam is being constructed.
5. **The construction of the dam was initiated in 2011** on the **Blue Nile tributary of the river** that runs across one part of Ethiopia.
6. The **Nile is a necessary water source in the region** and Egypt has consistently objected to the dam's construction, saying it will impact water flow.

MALAYSIA SUSPENDS PARLIAMENT

Malaysia's king declared a nationwide state of emergency for the first time in more than half a century, **suspending parliament** in a move that allows embattled Prime Minister Muhyiddin Yassin to avoid facing an election until the pandemic is over. The emergency decree gives **Muhyiddin's administration more power to tackle a surge in Covid-19 cases**, including over the operations of private hospitals, and may allow the police and military to assist in public health measures.

INTERNATIONAL MIGRATION 2020

India has the largest diaspora population in the world with **18 million people** from the country living outside their homeland in 2020, according to a report by the **United Nations**, which says the **UAE, the US and Saudi Arabia** host the largest number of migrants from India. The report '**International Migration 2020 Highlights**', by the **Population Division of the UN Department of Economic and Social Affairs (UN DESA)** released on 15 January 2021, said the **spatial distribution of transnational populations** varies greatly and **India's diaspora, the largest in the world**, is distributed across a number of major countries of destination.

ECONOMY

NEW IDS FOR J-K

Government of India has approved a **new Industrial Developmental Scheme** for **Jammu and Kashmir** 7 January 2021. The aim of the **new industrial developmental scheme (IDS)** is to encourage new investment and **to take industrial development to the block level**. The scheme will go a long way in ushering an **era of socio-economic development of the region** and for catering to the aspirations of people.

What

1. This scheme is from the **period of date of notification up to the year 2037** with a total outlay of Rs 28,400 crore.
2. It is for the **first time any industrial incentive scheme** is taking **development to the block level** and it will **promote far-flung areas of Jammu and Kashmir**.
3. The scheme will encourage **new investment, substantial expansion** and also **nurture the existing industries in the Union territory**.
4. It will also provide **employment to 4.5 lakh people** besides leading to equitable, balanced and sustainable socio-economic development of the region.
5. **Manufacturing and service sector units** in the union territory will benefit and noted that the scheme visualises a larger role of Jammu and Kashmir in the Indian economy.
6. The **main purpose of the scheme** is **to generate employment beyond government jobs** in both manufacturing and service sectors.
7. The scheme is being implemented with the vision that industry and service-led development of Jammu and Kashmir needs to be given a fresh thrust with **emphasis on job creation, skill development and sustainable development** by attracting new investment and nurturing the existing ones.
8. The scheme will provide a **major support to local industry** besides **creation of new business opportunities**.

IFSCA BECOMES MEMBER OF IOSCO

International Financial Services Centres Authority (IFSCA) on 1 January 2021 said it has **become an associate member** of the **International Organization of Securities Commissions (IOSCO)**. The **International Organization of Securities Commissions (IOSCO)** works **closely with the G20** and the **Financial Stability Board** in setting up the standards for strengthening the securities markets.

What

1. The **IOSCO Objectives and Principles of Securities Regulation** have been endorsed by **Financial Stability Board** as one of the key standards for sound financial systems.
2. The membership of IOSCO **would provide IFSCA the platform to exchange information** at the global level and regional level on areas of common interests.

3. The **first International Financial Services Centre (IFSC) in the country** has been **set up at the Gujarat International Finance Tec-City (GIFT)** in Gandhinagar.
4. To regulate such institutions, the government established IFSCA on 27 April last year with its head office in Gandhinagar.
5. In December 2019, **Parliament passed a bill to set up a unified authority for regulating all financial activities** at IFSCs in the country.

FINANCIAL STABILITY REPORT

The Reserve Bank of India's (RBI's) **Financial Stability Report (FSR)** of December 2020 has stated that **banks' gross non-performing assets (GNPAs)** may rise sharply to **13.5 per cent by September 2021**, and **escalate to 14.8 per cent**, nearly double the 7.5 per cent in the same period of 2019-20, under the severe stress scenario. And **banks will have to brace for a rollback of regulatory forbearance** that was announced in the wake of the pandemic, and **enhance their capital positions**.

What

1. The **FSR**, released on 11 January 2021, gave a caveat: **"Considering the uncertainty regarding the unfolding economic outlook**, and the extent to which regulatory dispensation under restructuring is utilised, the projected ratios are **susceptible to change in a nonlinear fashion"**.
2. This suggests that the **RBI's forbearance measures** may not be giving an accurate picture on the stress currently.
3. The growing disconnect between certain segments of **financial markets and real sector activity**, pointed out in the last FSR (June 2020), has got further accentuated, with **abundant liquidity spurring a quest for returns**. Within the **financial market spectrum too**, the divergence in expectations in the equity market and the debt market has grown.
4. The FSR mentioned that **"stress test results indicate that four banks may fail to meet the minimum capital level** by September 2021 under the baseline scenario, without factoring in any **capital infusion by stakeholders**.
5. In the severe stress scenario, the **number of banks failing to meet the minimum capital level** may rise **to nine"**.

INDIA'S EQUALISATION LEVY

Digital services taxes (DSTs) adopted by India, Italy and Turkey discriminate against US companies, are inconsistent with the currently prevailing principles of **international tax** and burden or restrict US companies. These are the findings of the office of the **US Trade Representative (USTR)** that were recently made public, pursuant to an investigation carried out under **section 301 of The Trade Act, 1974**.

USTR's report points out:

1. **India's DST is an outlier**. It taxes numerous categories of digital services that are not leviable under other DSTs adopted around the world.

2. This **brings more US companies within the scope of the DST**, and makes the measure significantly more burdensome.
3. **India will adopt is not immediately known**, it is unlikely that India will budge on its stand that its **Equalisation Levy (EL) aka digital services tax is unequitable**.
4. In this backdrop, the Indian government will need to gear up for some hard negotiations.
5. While, **imposition of additional tariffs by the US on imports from India** and other countries that have **introduced DSTs cannot be ruled out sometime in the future**, India will not be alone in this war.

SOLUTION TO PSH FOR FOOD SECURITY

India on 8 January 2021 **urged the members of the World Trade Organization (WTO)** to work on finding a **permanent solution to the issue of public stock holding for food security purposes**. Ongoing COVID-19 pandemic has again brought to the fore the **importance of food and livelihood security**.

What

1. India "urged the Membership for a **permanent solution to Public Stock Holding (PSH)** for food security.
2. The comments were made during the final session of **India's seventh Trade Policy Review (TPR)** which concluded on 8 January 2021 at the **WTO in Geneva**.
3. The **TPR is an important mechanism under the WTO's monitoring function** in which member countries' trade and related policies are examined with an aim to contribute towards improved adherence to **WTO rules**, while providing constructive feedback to the member under review.
4. More than 1,050 questions were asked and 53 interventions were made by WTO member countries in the TPR meetings.
5. Under the **global trade norms**, a WTO member **country's food subsidy bill** should not **breach the limit of 10 per cent** of the value of production based on the **reference price of 1986-88**.
6. Apprehending that the full implementation of food security programme may result in breach of WTO cap, India has been seeking **amendments in the formula to calculate food subsidy cap**.
7. As an interim measure, WTO members at the **Bali ministerial meeting** in December 2013 had agreed to put in place a mechanism, popularly called the **Peace Clause**, and committed to negotiate an agreement for permanent solution.

FACELESS PENALTY SCHEME

The government has introduced the **Faceless Penalty Scheme 2021** which will digitise issuing of penalties on assesses under the **faceless taxation regime**. The scheme, notified on 13 January 2021, specifies setting up of **national faceless penalty centres, regional penalty centres**, penalty units and review units for execution of penalty proceedings, such that a penalty order is issued correctly and undergoes review before being issued to an assessee.

What

1. For appeals, an assessee can approach the commissioner looking after appeals or the **national faceless appeal centre**.
2. The Central Board of Direct Taxes said in the notification that till the time the **faceless penalty centres**, both at national and regional levels, are set up, the penalty actions will be undertaken by the faceless assessment system.
3. All communication between units and assessees will be done either **via email.or through mobile app**, while physical hearing will be allowed only with approval from CBDT.
4. The government has been trying to make faceless taxation a reality, having introduced **faceless assessment and faceless appeals** last year.
5. The government has been relying heavily on technology, **artificial intelligence and machine learning** to plug as evasion and in turn making assessment of taxes for assessees as seamless as possible.

SUB-COMMITTEE OF THE FSDC

RBI Governor Shaktikanta Das headed Sub-Committee of the FSDC on 13 January 2021 reviewed the major developments in the **global and domestic economy** as well as financial markets that impact financial stability, the central bank said. The virtual meeting of the **Sub-Committee of the Financial Stability and Development Council (FSDC)** was attended by various regulators, including **Sebi and Irdai**.

What

1. The Sub-Committee discussed scope for improvements in **insolvency resolution under IBC**.
2. It discussed utilisation of data with the Central KYC Records Registry and changes in the regulatory framework relating to **Alternative Investment Funds (AIFs) set up in the International Financial Services Centre (IFSC)**, among others.
3. It reviewed the activities of various technical groups under its purview and the functioning of **State Level Coordination Committees (SLCCs)** in various states and Union Territories.
4. The regulators reaffirmed their resolve to be alert and watchful of emerging challenges to financial stability, the Reserve Bank of India (RBI) said.

SCIENCE AND TECHNOLOGY

DIGITAL PAYMENT INDEX UNVEILED

The **Reserve Bank of India (RBI)** has constructed a **composite Digital Payments Index (DPI)** to capture the extent of digitisation of payments across the country. The **RBI-DPI has been constructed with March 2018 as the base period**. The DPI for March 2019 and March 2020 work out to 153.47 and 207.84 respectively, indicating **appreciable growth**.

What

1. The **RBI-DPI comprises five broad parameters** that enable the **measurement of deepening and expansion of digital payments** in the country over different time periods.

2. **Each of these parameters has sub-parameters** which, in turn, consist of various measurable indicators.
3. Going forward, RBI-DPI shall be published on a **semi-annual basis from March 2021 onwards** with a lag of 4 months.
4. The **objective of DPI** is to reflect accurately the **penetration and deepening of various digital payment modes**.

DPI's parameters

1. **Payment Enablers (weight 25%)**
2. **Payment Infrastructure Demand-side factors (10%)** -
3. **Payment Infrastructure Supply-side factors (15%)** -
4. **Payment Performance (45%)**
5. **Consumer Centricity (5%)**

NATIONAL ATOMIC TIMESCALE

Prime Minister on 4 January 2020 dedicated the **National Atomic Timescale** and **Bhartiya Nirdeshak Dravya Pranali** to the nation and **laid the foundation stone** of the **National Environmental Standards Laboratory** through video conference. The conclave was organised by the **Council of Scientific and Industrial Research-National Physical Laboratory (CSIR-NPL)**, New Delhi, on its **75th year of inception**.

What

1. The **NPL is one of the oldest laboratories in the country**.
2. The **NPL** has adopted an international practice for **production of Indian Certified Reference Material (CRMs)** Trademarked as **Bhartiya Nirdeshak Dravya**.
3. Describing the **NPL as India's timekeeper**, PM said it also has the **responsibility to change the future of India**.
4. **Metrology** also sets the foundation for **any scientific achievement** and no research can proceed without measurements.
5. **Metrology is like a mirror** showing us our standing in the world, the scope for improvement.

FLOATING SOLAR PROJECT

The **world's largest floating 600 MW solar energy project** to be constructed at **Omkareshwar dam on Narmada river** in Khandwa district of Madhya Pradesh will begin power generation by year 2022-23. The **International Finance Corporation, World Bank** and **Power Grid** have granted in-principle consent for providing aid for the said project development.

What

1. The **primary feasibility study of the project** has been completed in **collaboration with the World Bank**.
2. The project is likely to begin power generation by year 2022-23.
3. The **work of transmission line route survey will begin** from the project area to Khandwa sub-station by power grid this month.

4. **Madhya Pradesh Power Management Company** has **agreed to purchase 400 MW power** from the project.
5. The project will have floating solar panels of 600 MW power generation capacity in the backwaters of Omkareshwar dam.
6. Electricity will be produced in about 2000-hectare water area by installing solar panels in the dam.

INDIA ON VANADIUM MAP

Arunachal Pradesh, considered a **sleeping hydropower giant**, could be **India's prime producer of vanadium**, a **high-value metal** used in **strengthening steel and titanium**. Exploration being carried out by **Geological Survey of India (GSI)** has placed the eastern Himalayan State on the **vanadium map of the country** and geologists are confident of identifying a deposit soon.

What

1. **India is a significant consumer of vanadium** but is not a **primary producer of the strategic metal**.
2. It is recovered as a **by-product from the slag** collected from the **processing of vanadiferous magnetite ores** (iron ore).
3. **India consumed 4% of about 84,000 metric tonnes of vanadium** produced across the globe in 2017. **China, which produces 57% of the world's vanadium**, consumed 44% of the metal.
4. Geologists discovered **two bands of about 7-metre thick carbonaceous phyllite** for a length of more than 6 km in the **Depo area**. This prompted the GSI to extend its search to other areas of the State.

Flashback

1. **Vanadium in its pure form** is a **soft, grey and ductile element** primarily derived from **mined iron ore, carbonaceous shale or phyllites** and steel slag.
2. **Vanadium alloys are durable in extreme temperature** and environments, and are **corrosion-resistant**.
3. Its addition improves the **tensile strength of steel** and of reinforcing bars used for buildings, tunnels and bridges.
4. Apart from increasing fuel-efficiency in automotive and aviation industries due to its high strength-to-weight ratio, the metal forms the integral part of **vanadium redox batteries** that have the least ecological impact in energy storage.

INDIA, ISRAEL TEST MRSAM DEFENCE SYSTEM

India and Israel have successfully tested a **Medium-Range Surface-to-Air Missile (MRSAM) defence system** jointly developed by the two countries in a boost to their combat capabilities **aimed at providing ultimate protection from enemy aircraft**. The test was conducted last week at an Indian facility and validated all components of the weapons system, a press release by Israel Aerospace Industries (IAI) on 5 January 2021 said.

What

1. The **MRSAM is an advanced path-breaking air and missile defence system** that provides ultimate protection against a variety of aerial platforms. It can shoot down enemy aircraft at a range of **50-70 kms**.
2. **It was jointly developed by IAI and the Defence Research and Development Organisation (DRDO)**, in partnership with other defence companies in Israel and India.
3. The **MRSAM is being used by all the three wings of the Indian army** and also Israel Defence Forces (IDF).
4. The system includes an **advanced phased-array radar**, command and control, mobile launchers and interceptors with advanced RF seeker.
5. **MRSAM Air & Missile Defense System** is a cutting edge, innovative system that once again has proven its advanced capabilities against a variety of threats.

MOU FOR USING BIODIGESTER TECHNOLOGY

The **Maharashtra Metro Rail Corporation Ltd (Maha-Metro)** on 5 January 2020 **signed an agreement** with the **Defence Research and Development Establishment (DRDE) of the DRDO** for **adopting the Biodigester Technology** for treating human waste and recycling water consumed in Pune metro rail.

What

1. The **Biodigester technology** is an **eco-friendly, cost-effective, decentralised, on-site human waste treatment technology** that uses **anaerobic microbial consortium**.
2. The **Biodigester technology developed by DRDE** is an efficient and economic onsite alternative to the **conventional sanitation techniques**.
3. It has proved effective in wide **geo-climatic conditions by tweaking the design**.
4. It has been adopted by the **Indian Railways leading to zero toilet discharge on tracks**.
5. The present model helps in **recycling of water which can be used for cleaning floors**, washrooms and washing vehicles.
6. The Pune metro is estimated to have five lakh footfall every day and the **Biodigester technology** would be used at all the metro stations.

Flashback

1. A **biodigester system utilizes organic waste**, particularly **animal and human excreta**, to produce **fertilizer and biogas**.
2. A biodigester consists of an **airtight, high-density polyethylene container** within which excreta diluted in water flow continuously and are fermented by **microorganisms** present in the waste.
3. The **fermentation process is anaerobic**, i.e., it takes place without oxygen, and the bacteria responsible for **decomposition are methanogenic** (i.e., they produce methane, also known as biogas).
4. The processed manure is an organic, **pathogen-free fertilizer** that is **rich in nitrogen, phosphorus and potassium**. The products are primarily for self-consumption on farms.

MISCELLANEOUS

40TH INDIAN SCIENTIFIC EXPEDITION TO ANTARCTICA

India on 4 January 2021 launched the **40th scientific expedition to Antarctica** with a 43-member team embarking upon the **Russian ice-class vessel MV Vasilii Golovnin**. It marks four decades of the **country's scientific endeavour** to the southern continent. The expedition commences from **Mormugao Port Trust**, Goa on 5 January 2021 with **43 members** and will **sail to Cape Town, South Africa** where five more members will climb onboard.

What

1. The **chartered vessel** is expected to reach **Antarctica in 30-45 days** and will bring back the **48 members** who have been on the continent for 15 months.
2. The **National Centre for Polar and Ocean Research (NCPOR)**, which **manages the entire Indian Antarctic program** said that the expedition has been limited to support the **ongoing scientific projects on climate change, geology, ocean observations, electric and magnetic flux measurements, environmental monitoring**; resupplying of food, fuel, provisions and spare; and accomplishing the return of the winter crew
3. **Polar Regions are crucially important in answering key questions** about the global climate change, its contribution towards global sea-level rise, the background aerosol properties, variability in the sea ice cover and phenomenon like **Antarctic haze and ozone concentrations**.
4. The **Indian Antarctic expeditions began in 1981** with the first trip consisting of a team of **21 scientists** and support staff led by Dr SZ Qasim.
5. Today, the **Indian Antarctic programme** has **three permanent research base stations** in Antarctica; **Dakshin Gangotri, Maitri, and Bharati** of which **Maitri and Bharati** are operational.

RAJ IYER BECOMES US ARMY'S FIRST CIO

Indian-American Dr Raj Iyer has taken over as the **first Chief Information Officer (CIO) of the US Army**, after the Pentagon **created the position in July 2020**. One of the highest ranking Indian-American civilians in the US Department of Defense, Iyer, who holds a Ph. D. in Electrical Engineering, serves as the principal advisor to the Secretary of the Army and directs representation of the secretary in matters relating to information management/information technology (IT).

PRAVASI BHARATIYA DIVAS 2021

Pravasi Bharatiya Divas (PBD) is observed on **9th January every year** to mark the **contribution of the Overseas Indian community** in the development of India. **On this day in 1915, Mahatma Gandhi, the greatest Pravasi, returned to India** from South Africa, which led India's freedom struggle and changed the lives of Indians forever. Therefore, **9 January was selected as the day to celebrate this occasion**. In order to connect India with vast overseas diaspora and bring their knowledge, expertise and skills

on a common platform, the **PBD Convention** - the **flagship event of MOIA** is organized from **7th-9th January every year since 2003**.

About PBD

1. **Since 2003**, PBD conventions are being held every year.
2. Its **format was revised in 2015 to celebrate the PBD once every two years** and also to hold **theme-based PBD Conferences** during the interim period with participation from **overseas diaspora experts, policymakers and stakeholders**.
3. This year, the **theme of Pravasi Bharatiya Divas** is "**Contributing to Aatmanirbhar Bharat**".
4. The **Pravasi Bharatiya Divas** event will be held virtually amid the coronavirus pandemic.
5. **Pravasi Bharatiya Divas 2021** Convention will consist of three segments and inaugurated by Prime Minister Narendra Modi.
6. PBD 2020 was held in New Delhi on 9th January 2020 in which External Affairs Minister (EAM) interacted with diaspora in eight countries through the means of video conference.

NATIONAL YOUTH DAY

India celebrates 12 January as the "**National Youth Day**" to honour the **ideals of Swami Vivekanand** on his birth anniversary. The day is also referred to as **Swami Vivekanand Jayanti** and was designated as the **National Youth Day in 1984**. Vivekanand is known for his focus on youths.

What

1. Every year **National Youth Day** is observed to mark the **philosophy of Swamiji** and the ideals for which he lived and worked could be a great source of **inspiration for the Indian Youth Day**."
2. A **disciple of the 19-century Indian mystic Sri Ramakrishna Paramahansa**, Swami Vivekanand was a **Hindu monk who became world-famous for his philosophy** which was rooted in Indian spiritual tradition.
3. He is **proudly remembered for his 1893 speech at the Parliament of World Religions** in which he had laid special emphasis on building capacity of the youths.
4. Schools and colleges across India celebrate the National Youth Day and organise sports, debate competitions or cultural programmes with the aim to provide an opportunity for students to showcase their talents.

TOP FRANCE AWARD TO INDIAN PHYSICIST

Prof Rohini Godbole from the Centre for High Energy Physics (CHEP) at the Indian Institute of Science (IISc) has been awarded the "**Ordre National du Mérite**", or the **National Order of Merit**, considered among the **highest distinctions bestowed by France**.

What

1. **Godbole** was awarded the **Padma Shri by the Indian government in 2019**.
2. Godbole has given this award for her “**remarkable scientific achievements**” in India and internationally that naturally led her to be involved in **strong collaboration with French CNRS** within the **Indo-French Laboratory in Theoretical High Energy Physics (IFLTHEP)**.
3. This collaboration between IISC and CNRS has been of great success and has made Indian and French physicians from these two institutions working closely together.
4. **Godbole’s recommendations** have been incorporated in the draft of **India’s new Science, Technology, Innovation Policy (STIP-2020)**.

BIRD FESTIVAL AT NAGI- NAKTI BIRD SANCTUARIES

Bihar’s first state-level bird festival ‘Kalrav’ was held at the **world famous Nagi-Nakti bird sanctuaries** in the **Jamui district from 15 January 2021**. The three –day event is expected to draw experts and bird lovers from all over the country. **Hosted by the department of forest, environment and climate change**, the event is intended to create awareness about **conservation of birds and their habitat, the wetlands**.

What

1. The **Nagi- Nakti Bird Sanctuaries** have been the **home of a wide variety of indigenous species of birds** and of migratory birds that turn up during the winters from places like **Eurasia, Central Asia, the Arctic Circle, Russia and Northern China**.
2. **Over 136 species of birds have been spotted** at these sanctuaries. Not just that, around 1,600 **bar-headed geese**, which is about 3% of the global population of this variety, have been seen here, as per a report of the **Wetlands International** and because of this rare phenomenon, the Birdlife International, a global body, has held the **Nagi Dam Bird Sanctuary to be globally important for conservation of birds’** population and has declared it as an important bird area.
3. As a part of the bird conservation plan, the forest department has developed a **bird ringing station at Bhagalpur**.