

SUMMARY AND RELEVANT TERMS EXPLAINED FROM PIB AND AIR

DATED: 06.05.2020 TO 01.06.2020





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DATED: 06-05-2020 TO 08-05-2020



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Public Information Bureau (PIB-- News From 06th May to 08th May 2020)

- 1. Rajnath Singh inaugurates 80 km long road curtailing Kailash-Mansarovar pilgrimage time
 - The road (made by Border Road Organisation) link from Dharchula (Uttarakhand) to Lipulekh (China Border).

Border Road Organisation

- ❖ The Border Roads Organisation [BRO] plays a very vital role in connecting the inaccessible border areas. BRO was raised on May 7, 1960 with the mission of developing communication in hither to forlorn areas of the north and North-East states of India and also fortification of the turbulent borders.
- ❖ In 1987, the BRO was entrusted with the construction of roads and fencing the Indo-Bangladesh border in the states of Tripura, Meghalaya and Mizoram.
- Earlier, BRO receives funds from the Ministry of Road Transport and Highways but undertakes the tasks assigned by the Ministry of Defence.
- From 2015 it brought fully under Ministry of Defence.
- Engineering Service and personnel from the General Reserve Engineer Force (GREF) form the parent cadre of the Border Roads Organisation.
- Apart from its work in India, the BRO has undertaken work in numerous countries thus having contributed immensely towards maintaining friendly and diplomatic relations.
- The highly skilled BRO personnel undertook and successfully completed construction of the Delaram-Zaranj Highway in Afghanistan in 2008.
 The Farkhor and Ayni air bases of Tajikistan were also restored and repaired by the BRO.

SOURCE: BRO archive and Business Standard

- Pilgrimage to Kailash-Manasarovar has been sacred and revered by Hindus, Buddhists and Jains
- Now Pilgrims to Manasarovar will traverse **84 per cent land journeys on Indian Roads and only 16 per cent land Journeys in China.**
- Numerous flash floods and cloud bursts over last few years led to extensive damages.
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Cloud Bursts and Flash Floods

- ❖ A cloudburst is different from rain only in the amount of water that pours down on the earth. The India Meteorological Department (IMD) labels rainfall over 100 mm per hour as cloudburst. Usually small areas – anywhere between 20-80 square kilometres are affected.
- Simply, Cloudbursts have a very specific definition: if rainfall of about 10 cm or above per hour is recorded over a place that is roughly 10 km x 10 km in area it is classified as a cloudburst event. And by this definition, 5 cm of rainfall in half an hour would also be classified as a cloudburst.
- Flash-floods are mostly the result of cloudbursts or blockage of river channel due to landslides.
- Flood mainly occurs due to over-topping of rivers, heavy rainfall, melting of snow and bank erosion because of steep slopes of river.
- Cloudbursts do happen in plains as well, but there is a greater probability of them occurring in mountainous zones; it has to do with the terrain. Cloudbursts happen when saturated clouds are unable to produce rain because of the upward movement of very warm current of air. Raindrops, instead of dropping down, are carried upwards by the air current. New drops are formed and existing raindrops gain in size. After a point, the raindrops become too heavy for the cloud to hold on to, and they drop down together in a quick flash.

SOURCE: Business Standard and Down To Earth

2. Talks between Prime Minister Shri Narendra Modi and H.E. Charles Michel, President of the European Council

Discussed the situation of and responses to the COVID-19 pandemic in India and the European Union.

European Council

- Established in 1974 (informal forum), 1992 (formal status), 2009 (official EU institution)
- Under the Treaty of Maastricht in 1992, the European Council acquired a formal status and role - to provide the impetus and general political guidelines for the EU.
- ❖ In 2009, following the changes introduced *by the Lisbon Treaty*, the European Council became one of the 7 EU institutions.
- The European Council is the EU institution that defines the general political direction and priorities of the European Union. It consists of the heads of
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- state or government of the member states, together with its President and the President of the Commission.
- The European Council *mostly takes its decisions by consensus*. However, in certain specific cases outlined in the EU treaties, it decides by unanimity or by qualified majority.
- If a vote is taken, neither the European Council President nor the Commission President take part.

Council of The European Union

- **Established in 1958 (as Council of the European Economic Community)**
- ❖ The Council defines and implements EU foreign and security policy based on guidelines set by the European Council.
- The Council provides the mandate to the Commission to negotiate on behalf of the EU agreements between the EU and non-EU countries and international organisations.
- The Council adopts the EU budget together with the Parliament.
- Together with the European Parliament, the Council is the main decision-making body of the EU.
- Its main functions are: Negotiates and adopts EU laws, Develops the EU's common foreign and security policy, Coordinates member states' policies, Concludes international agreements.
- ❖ Don't Confused it with European Council (quarterly summits, where EU leaders meet to set the broad direction of EU policy making) and Council of Europe (not an EU body at all)

SOURCE: European Union Website

3. Food grain procurement picks up pace amid lockdown

Lifting of food grains by state governments under the Pradhan Mantri Garib Kalyan Ann Yojana (PMGKAY) under which 5 Kg food grain is being distributed free of cost for 3 months to about 80 crore beneficiaries across the country has crossed 70 LMT, which is about 58% of the total allocation for 3 months

Pradhan Mantri Garib Kalyan Ann Yojana (PMGKAY, facilities provided for time being, may be extended)

The Union Finance & Corporate Affairs Minister Smt. Niramla Sitharaman today announced Rs 1.70 Lakh Crore relief package under Pradhan Mantri Garib Kalyan Yojana for the poor to help them fight the battle against Corona Virus.

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- Following are the components of the Pradhan Mantri Garib Kalyan Package:
 - Insurance scheme for health workers fighting COVID-19 in Government Hospitals and Health Care Centres- compensated with an amount of Rs 50 lakh under the scheme.
 - PM Garib Kalyan Ann Yojana- 80 crore individuals, i.e, roughly twothirds of India's population would be covered under this scheme.
 - Benefit to farmers: The first instalment of Rs 2,000 due in 2020-21 will be front-loaded and paid in April 2020 itself under the PM KISAN Yojana.
 - *Gas cylinders: gas cylinders, free of cost*, would be provided to 8 crore poor families for the next three months.
- The State Government will be asked to utilise the funds available under District Mineral Fund (DMF) for supplementing and augmenting facilities during pandemic.

SOURCE: Economic Times and The Hindu

4. Prime Minister ShriNarendraModi addressed the virtual 'Vesak Global Celebrations' on Buddha Purnima

Vesak Festival

- It is a celebration of Buddha's birthday and, for some Buddhists, marks his enlightenment (when he discovered life's meaning).
- The date of Vesak changes each year as it takes places at the time of the first full moon of the ancient lunar month of Vesakha, which usually falls in May or early June.
- ❖ Each Buddhist culture *has its own traditions for the day,* but it is celebrated in lots of different countries.
- It was also on the Day of Vesak that the Buddha attained enlightenment, and it was on the Day of Vesak that the Buddha in his eightieth year passed away.
- The General Assembly, by its <u>resolution 54/115</u> of 1999, recognized internationally the Day of Vesak to acknowledge the contribution that Buddhism, one of the oldest religions in the world.

SOURCE: BBC and UN

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5. RS Chairman and LS Speaker discuss COVID and meetings of Parliamentary Committee

Parliamentary Committee

- ❖ The work done by the Parliament in modern times is not only varied and complex in nature, but also considerable in volume. The time at its disposal is limited. It cannot, therefore, give close consideration to all the legislative and other matters that come up before it.
- ❖ A good deal of its business is, therefore, transacted in Committees of the House, known as Parliamentary Committees.
- ❖ Parliamentary Committee means a Committee which is appointed or elected by the House or nominated by the Speaker and which works under the direction of the Speaker and presents its report to the House or to the Speaker and the Secretariat for which is provided by the Lok Sabha Secretariat.
- By their nature, Parliamentary Committees are of two kinds: Standing Committees and Ad hoc Committees.
- ❖ Standing Committees are permanent and regular committees which are constituted from time to time in pursuance of the provisions of an Act of Parliament or Rules of Procedure and Conduct of Business in Lok Sabha. The work of these Committees is of continuous nature. The Financial Committees, DRSCs (Department Related Standing Committee) and some other Committees come under the category of Standing Committees.
- ❖ Ad hoc Committees are appointed for a specific purpose and they cease to exist when they finish the task assigned to them and submit a report. The principal Ad hoc Committees are the Select and Joint Committees on Bills. Railway Convention Committee, Joint Committee on Food Management in Parliament House Complex etc also come under the category of ad hoc Committees.
- There are 24 Departmentally Related Standing Committees covering under their jurisdiction all the Ministries/ Departments of the Government of India. Each of these Committees consists of 31 Members 21 from Lok Sabha and 10 from Rajya Sabha to be nominated by the Speaker, Lok Sabha and the Chairman, Rajya Sabha, respectively. The term of Office of these Committees does not exceed one year.
- ❖ A Minister is not eligible for election or nomination to the financial Committees, DRSCs and Committees on (1) Empowerment of Women (2) Government Assurances (3) Petitions (4) Subordinate Legislation (5) Welfare of Scheduled Castes and Scheduled Tribes.
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- ❖ The Committee on Estimates, constituted for the first time in 1950, is a Parliamentary Committee consisting of 30 members, elected every year by the Lok Sabha from amongst its Members.
- The Committee on Public Accounts was first set up in 1921 in the wake of the Montague-Chelmsford Reforms. The Finance Member of the Executive Council used to be the Chairman of the Committee.
- ❖ The Public Accounts Committee consists of not more than 22 members comprising of 15 members elected by Lok Sabha every year from amongst its members according to the principle of proportional representation by means of single transferable vote and not more than 7 members of Rajya Sabha elected by that House in like manner. An important function of the Committee is to ascertain that money granted by Parliament has been spent by Government "within the scope of the demand."
- ❖ The Committee on Public Undertakings is a Parliamentary Committee consisting of 22 Members, fifteen of whom are elected by the Lok Sabha every year from amongst its Members according to the principle of proportional representation by means of a single transferable vote and seven Members to be nominated by Rajya Sabha for being associated with the Committee.

SOURCE: Lok Sabha and Rajya Sabha Website

6. Union Agriculture Minister calls for farmers' movement on integrated soil nutrient management based on Soil Health Card

Integrated soil nutrient management

- ❖ Integrated Nutrient Management refers to the maintenance of soil fertility and of plant nutrient supply at an optimum level for sustaining the desired productivity through optimization of the benefits from all possible sources of organic, inorganic and biological components in an integrated manner.
- Integrated Soil Fertility (ISF) and Nutrient Management (NM) is an advanced approach that can serve as a remedy to improve crop yields and to preserve soil fertility in the long run.
- Agricultural scientists have recommended soil test based balanced and integrated nutrient management (INM) through conjunctive use of both inorganic and organic sources of plant nutrients including secondary and micro-nutrients to sustain soil fertility and productivity.
- Government is implementing Soil Health Management under National Mission for Sustainable Agriculture (NMSA). Soil Health Management (SHM) aims at promoting Integrated Nutrient Management (INM).
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- The Government is also implementing the Nutrient Based Subsidy (NBS) scheme and promoting customized and fortified fertilizers for balanced use of fertilizers.
- ❖ Some innovative ways of producing organic matter on the farm itself by way of bund farming (growing perennial shrubs on field bunds, adding the pruned material in the cropped field as manure cum mulch), cover cropping, use of vermi-compost, recycling of crop residues, green leaf manuring and agroforestry to meet the nutrient requirements of the crops in view of the declining availability of FYM (Farm yard Manure) and compost.

SOURCE: Tamil Nadu Agricultural University, FAO and Newspapers

Directed running mission mode awareness campaigns on increasing use of bio and organic fertilisers and reducing chemical fertilisers

Bio and organic fertilisers

- ❖ Biofertilizers means the product containing carrier based (solid or liquid) living microorganisms which are agriculturally useful in terms of nitrogen fixation, phosphorus solubilization or nutrient mobilization, to increase the productivity of the soil and/or crop.
- Whereas, Organic fertilizer means substances made up of one or more unprocessed material(s) of a biological nature (plant/ animal) and may include unprocessed mineral materials that have been altered through microbiological decomposition process"
- ❖ Bio fertilizers are microbial inoculants consisting of living cells of microorganism like bacteria, algae and fungi alone or combination which may help in
 increasing crop productivity. Biological activities are markedly enhanced by
 microbial interactions in the rhizosphere of plants.
- Whereas, organic fertilizers are obtained from animal sources such as animal manure or plant sources like green manure. For example, vermicomposting is a simple biotechnological process of composting, in which certain species of earthworms are used to enhance the process of waste conversion and produce a better end product.

SOURCE: Science Direct and Down To Earth

7. Shri Gadkari calls upon Fragrance and Flavours Association of India to focus on domestic production & import substitution

Meeting with the members of Fragrances and Flavours Association of India on impact of COVID-19 on startup eco system and MSMEs.

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Fragrances and Flavours Association of India

- ❖ Fragrances and Flavours Association of India (FAFAI) is an apex body of 800 members in the field of Fragrances, Flavours, Aroma chemicals, Natural Oils and its ancillaries. The Association is instrumental in representing grievances of members to various government bodies.
- It started functioning from 1949.

SOURCE: FAFAI Website

8. Notice period for draft Environment Impact Assessment Notification (EIA), 2020 extended till 30th June.

Environment Impact Assessment

- Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.
- ❖ UNEP defines Environmental Impact Assessment (EIA) as a tool used to identify the environmental, social and economic impacts of a project prior to decision-making. It aims to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers.
- ❖ EIA is one of the successful policy innovations of the 20th Century for environmental conservation. Thirty-seven years ago, there was no EIA but today, it is a formal process in many countries and is currently practiced in more than 100 countries.
- ❖ In 1989, the World Bank adopted EIA for major development projects, in which a borrower country had to undertake an EIA under the Bank's supervision.
- ❖ EIA in India's Context
- ❖ It started in 1976-77 when the Planning Commission asked the Department of Science and Technology to examine the river-valley projects from an environmental angle.
- On 27 January 1994, the Union Ministry of Environment and Forests (MEF), Government of India, under the Environmental (Protection) Act 1986, promulgated an EIA notification making Environmental Clearance (EC) mandatory for expansion or modernisation of any activity or for setting up new projects.
- SEA is commonly described as being proactive and 'sustainability driven', whilst EIA is often described as being largely reactive.
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One of the forms of impact assessment is strategic environment assessment.
<u>Difference between EIA and SEA is given below:</u>

Table 3: Difference in EIA and SEA

Environment impact assessment		Strategic environment assessment				
69	Takes place at end of decision-making cycle	101	Takes place at earlier stages of decision making cycle			
6	Reactive approach to development proposal		§ Pro-active approach to development proposals			
ş	Identifies specific impacts on the environment	-69	Also identifies environmental implications, issues of sustainable			
9	Considers limited number of feasible alternatives		development			
69	Limited review of cumulative effects	593	Considers broad range of potential alternatives			
9	Emphasis on mitigating and minimizing impacts	69	Early warning of cumulative effects			
100	Narrow perspective, high level of detail	ron.	Emphasis on meeting environmental objectives, maintaining natural systems			
ş	Well-defined process, clear beginning and end	£93	Broad perspective, lower level of detail to provide a vision and overall framework			
69	Focuses on standard agenda, treats symptoms of environmental deterioration	1071	Multi-stage process, overlapping components, policy level is continuing, iterative			
		100	Focuses on sustainability agenda, gets at sources of environmental deterioration			
	Source: EIA Training Resource Manual, 2nd edition, 2002, United Nations Development Programme					

SOURCE: Arthapedia, Convention on Biological Diversity and Newspaper

9. Nine people were killed and more than 200 injured in the Vizag chemical gas leak incident at LG Polymers chemical

> Team from CBRN (Chemical, Biological, Radiological and Nuclear) unit of NDRF from Pune, along with an expert team of National Environmental Engineering

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- **Research Institute (NEERI), Nagpur** would be rushed to Vishakhapatnam immediately.
- The incident of Styrene gas leakage occurred in a chemical plant in the early hours. Styrene gas, which is toxic in nature, may cause irritation to the skin, eyes and causes respiratory problems and other medical conditions.

Styrene gas

- **Styrene** is a colourless, flammable liquid which is used to prepare polystyrene plastics, rubber and fibre glass. It is used in pipes, insulation, automobile parts etc.
- The exposure of styrene is through ingestion, inhalation or contact (skin). Common symptoms of styrene exposure include irritation to eyes, nose and skin; gastrointestinal and respiratory effects. Its long-term exposure may cause central nervous system and kidney related problems, depression, headache etc.
- The department of health and human services USA has listed **styrene** as reasonably anticipated to be human carcinogen.
- When released into the soil or water, styrene is expected to readily biodegrade and evaporate quickly. While released into the air, styrene is expected to be readily degraded by reaction with photo-chemically produced hydroxyl radicals and is expected to have a half-life of less than 1 day.

SOURCE: Ministry of Health website

10. JNCASR scientists fabricate energy-efficient photodetector for security application

- Scientists from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), an autonomous institute under the Department of Science and Technology, have fabricated an economical and energy-efficient wafer-scale photodetector (thin slice-based) using gold silicon interface, for security applications. It could help detect weak scattered light as an indication of unwanted activity.
- Photodetectors are the heart of any optoelectronic circuit that can detect light and are employed for a wide variety of applications ranging from controlling automatic lighting in supermarkets to detecting radiation from outer galaxy as well as security-related applications.
- ➤ However, the material cost and the intricate fabrication processes involved in realizing *high-performance detectors make them unaffordable for day to day applications*.
- The scientists have fabricated gold (Au)—silicon (n-Si) interface, which showed high sensitivity towards light demonstrating the photodetection action.
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- The Au-Si interface was brought about by galvanic deposition, a technique for electroplating of metals, wherein water-based solutions (electrolytes) are used, which contain the metals to be deposited as ions. In addition, a nanostructured Au film also was deposited on top of p-type silicide (having an excess of positive charges), which acts as a charge collector.
- > The detector exhibits a rapid response of 40microseconds and can detect low light intensities. The device covers a broad spectral range from Ultraviolet to Infrared.



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All India Radio (AIR--News From 06th May to 08th May 2020)

SPECIFIC AIR NEWS NOT COVERED ABOVE

- 1. Flight carrying over 230 Indians from Singapore lands in Delhi under *Vande Bharat Mission*
- 2. INS Jalashwa to ferry 750 Indians from Maldives to Kochi
 - Around 750 Indian nationals will embark for Kochi from Maldives capital, Male later today as part of *Indian government's Operation Samudra Setu* to evacuate Indians stranded abroad. These people will return by an Indian navy ship INS Jalashwa which reached Male.
 - Another ship of Indian navy INS Magar is expected to bring back over a thousand Indians from Maldives to Tuticorin.
- 3. Coir Board sign with IIT Madras MoU to establish CoE for Coir applications
 - As per Ministry of Micro, Small and Medium Enterprises, the Centre of Excellence (CoE) aims at furthering the research work done so far in the coir sector with the support of IIT, Madras.

Coir Board

- ❖ The Coir Board is a statutory body established under the Coir Industry Act, 1953 for promoting overall development of the coir industry and improvement of the living conditions of the workers engaged in this traditional industry.
- COIR is a versatile natural fibre extracted from mesocarp tissue, or husk of the coconut fruit.
- Generally, fibre is of golden colour when cleaned after removing from coconut husk; and hence the name "The Golden Fibre".
- Coir Geotextiles protect land surface and promote quick vegetation. Geotextiles are wonderful treasure of natural echo friendly, erosion control blankets in woven and non-woven preparations. Totally biodegradable, geotextiles help soil stabilisation and renew vegetation in varying slopes.
- Durability and cost effectiveness of the use of coir geotextiles have been established in studies on rural roads.
- Permission has already been given by the concerned authorities to use coir geotextiles on National Highways.
- Coir geo-textiles can be used to stabilize the soil temporarily when construction roads or banks.
- Coir geotextiles are being used as a separation cum drainage layer in the road. It is also intended to serve as a reinforcement material in the beginning of the project. Geo-synthetics are widely used in the construction of road all over the world, whereas use of coir geotextiles is very limited in such construction.
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- Coir geotextile are now being successfully employed for enhancing soil behaviour, stopping soil erosion, as well as in helping consolidation of soil.
- Coir like a 100% organic and environmental fibre, with great durability, includes a definite edge over synthetic geotextile, within the environment aspect. The finest improvement is it offers an environmental niche for rapid establishment of plant life.

SOURCE: Coir Board Website and Newspapers



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Public Information Bureau (PIB-- News From 09th May to 11th May 2020)

1. PM pays tributes to Gopal Krishna Gokhale on his birth anniversary

A remarkable personality blessed with immense wisdom, he made outstanding contributions towards education and social empowerment. He also provided exemplary leadership to India's freedom movement.

Contribution of Gokhale (1866-1915)

- ❖ Gokhale was greatly influenced by M. G. Ranade, whom he regarded as his master in political and public life, Dadabhai Naoroji, who was his hero, and Pherozeshah Mehta.
- In 1889, he became a member of the Indian National Congress.
- In 1890, he was elected Honorary Secretary of the Sarvajanik Sabha, Poona, of which Ranade was the most influential member.
- ❖ In 1893, he became the Secretary of the Bombay Provincial Conference.
- In 1895, he became Joint Secretary of the Indian National Congress along with Tilak.
- In 1896 when Tilak and his associates captured the Sarvajanik Sabha. Ranade and his followers including Gokhale dissociated themselves from the Sabha and founded a new association called the Deccan Sabha.
- ❖ In 1899 he was elected to the Bombay Legislative Council.
- ❖ In 1905, Gokhale founded the 'Servants of India Society' with the object of training men to devote themselves to the service of India as national missionaries and to promote by all constitutional means the national interests of the Indian people.
- ❖ He was also elected as the President of the Indian National Congress in 1905.
- ❖ In 1908, he founded the 'Ranade Institute of Economics'. He was a front-rank reformer; he deprecated the caste-system and untouchability, pleaded for the emancipation of women and championed the cause of female education.
- ❖ As a member of the Legislative Council Gokhale put forward a proposal for compulsory primary education in 1910.
- ❖ In Gokhale's opinion, the introduction of Western education in India with its liberalising influence was a great blessing to the people.
- ❖ For some years he also wrote in the English Section of the journal 'Sudharak' started by Gopal Ganesh Agarkar, a veteran social reformer in nineteenth century Maharashtra.
- ❖ Gokhale's political thinking essentially represented the liberal ethos of his time and it was that liberalism which shaped his social and political ideas.
- Gokhale's political thought revolves more around the socio-political issues of his times rather than any basic political concept like that of the state or nation or sovereignty.
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❖ He proposed property qualification for enfranchisement. For example, for the village Panchayat elections. Gokhale wanted that only such persons should be enfranchised who paid a minimum land revenue.

SOURCE: IGNOU and NIOS

2. Despite enormous challenges posed by COVID -19 pandemic RCF registers over 35 percent increase in sale of NPK fertilizers Suphala

- RCF (Rashtriya Chemicals Fretilizers Ltd, *a PSU under Ministry of Chemicals and Fertilizers*) a "Mini Ratna", is a leading producer of fertilizers and chemicals in the country.
- ➤ It manufactures Urea, Complex Fertilizers, Bio-fertilizers, Micro-nutrients, water soluble fertilizers, soil conditioners and a wide range of Industrial Chemicals.
- The company is a household name in rural India with brands "Ujjwala" (Urea) and "Suphala" (Complex Fertilizers) which carry high brand equity.

3. 490 Lifeline Udan flights operated till date to ensure continuous supply of essential and medical supplies across the country

- ➤ 490 flights have been operated *under Lifeline Udan* by Air India, Alliance Air, IAF and private carriers.
- Lifeline Udan' flights are being *operated by MoCA* to transport essential medical cargo to remote parts of the country to support India's war against COVID-19.

4. Representation to register Retailers and Building and Construction Professionals as MSMEs will be examined: Shri Gadkari

- Ministry assured the Retailers Association of India and Practicing Engineers, Architects and Town Planners Association (India) that their request for registering as MSMEs will be examined expeditiously.
- ➤ Work on *Green Express Highway* has already started, and this is an opportunity for industry to make future investments
- ➤ **Government of Japan has offered special package** to its industries for taking out Japanese investments from China and move elsewhere.

Green Express Highway

- The unique roadways infrastructure project will involve green cover and utilization of reusable material while laying roads.
- The World Bank will provide the loan under Green National Highways Corridor Project (GNHCP).
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- ❖ The essential components of the Green Highway Project are sustainable development and maintenance of National Highways, Institutional Capacity Enhancement, road safety, and research and development.
- The Green Highway project will also witness enhancement of road safety by adopting advanced measures such as safety audits at design, implementation, operation and maintenance stages.
- Under the project, research and development studies will be done topics like the use of fly ash, demolition waste etc. in embankments, use of waste plastic, modifiers etc. in bituminous works, stabilization of soils and pavement layers, tree plantation and slope protection using bio-engineering solutions.
- ❖ These will *mitigate issues like* land acquisition, utility shifting, and other clearances related to brown-field expansion of existing alignment.

SOURCE: Economic Times and Financial Express

5. SECI (Solar Energy Corporation of India), a CPSU, conducts e-Reverse Auction for renewable energy projects

- Indian Renewable Energy (RE) sector has witnessed history, as the e-*Reverse*Auction(e-RA) for 400 MW RE (Renewable Energy) Projects with Round the Clock
 (RTC) supply, was concluded at an astounding first year tariff.
- What makes the tariff a historic one, is the fact that this tender provides for a Round the Clock energy supply from 100% RE based energy generation sources, such as wind and solar PV, combined with storage.

Reverse Auction Mechanism

- ❖ A reverse auction mechanism is an auction approach to procurement, wherein sellers which meet certain minimum criteria are eligible to submit non-negotiable price bids.
- The buyer (typically a utility) then selects winning sellers based on the lowest priced bids first, and signs non-negotiable standard contracts with the winning sellers, incorporating the prices bid by that seller.
- ❖ Simply, in a reverse auction, the buyer puts up a request for a required good or service. Sellers then place bids for the amount they are willing to be paid for the good or service, and at the end of the auction the seller with the lowest amount wins.
- While the concept of a reverse auction mechanism is not new, it is a fairly new approach for procuring renewables. Where it has been deployed, it has been used as a way to let the competitive market determine the price paid for renewables.

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- * Reverse auction opens up a vast sea of opportunities for the sellers in terms of entry into new sectors of the economy and expanding business with the existing buyers.
- ❖ In a reverse auction, a platform is provided for the big and small businesses to compete together in a bid.
- ❖ One of the major drawbacks for a seller in a reverse auction is that he does not get to choose the price for his product. Often, in order to win the bid, he may end up lowering the prices significantly. This may lead him to incur loss in the contract.

SOURCE: Investopedia, Solar Energy Industries Association and Newspaper

6. DRDO lab develops automated UV systems to sanitise electronic gadgets, papers and currency notes

- ➤ Hyderabad based Defence Research and Development Organisation (DRDO) premier lab, Research Centre Imarat (RCI), has developed an automated contactless UVC sanitisation cabinet, *called Defence Research Ultraviolet Sanitiser (DRUVS)*.
- ➤ It has been designed to sanitise mobile phones, iPads, laptops, currency notes, cheque leaf's, challans, passbooks, paper, envelopes, etc.
- > It provides 360-degree exposure of UVC to the objects placed inside the cabinet.

Ultraviolet Light (UV)

- Ultraviolet (UV) light has shorter wavelengths than visible light. Although UV waves are invisible to the human eye, some insects, such as bumblebees, can see them.
- The Sun is a source of the full spectrum of ultraviolet radiation, which is commonly subdivided into UV-A, UV-B, and UV-C. These are the classifications most often used in Earth sciences.
- UV-C rays are the most harmful and are almost completely absorbed by our atmosphere.
- UV-B rays are the harmful rays that cause sunburn. Exposure to UV-B rays increases the risk of DNA and other cellular damage in living organisms. Fortunately, about 95 percent UV-B rays are absorbed by ozone in the Earth's atmosphere.
- Scientists can study the formation of stars in ultraviolet since young stars shine most of their light at these wavelengths.
- UVB, due to its short wavelength that reaches the outer layer of your skin (the epidermis)
- UVA rays have a longer wavelength that can penetrate the middle layer of your skin (the dermis)
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- Now, scientists are studying the *use of ultraviolet germicidal radiation (UVGI)* to *detect the virus* in schools, restaurants and other public places. Through this method, ultraviolet (UV) lights would be able to disinfect contaminated public spaces to stop the transmission of the virus.
- UVGI replicates UV wavelengths that disinfects contaminated spaces, air and water.
- According to the US Centers for Disease Prevention and Control (CDC), UVGI is a promising method for disinfection but the efficacy of it depends on its dose. In 2005, the CDC revised its guidelines for using UVGI with regards to the spread of tuberculosis (TB) in hospital settings.
- ❖ **UVGI relies on air circulation in a room,** which means the circulation of air needs to be such that air from below the room, where the pathogen is generated reaches the upper portions of the room, where the UVGI can trap the pathogen.

SOURCE: NASA, Indian Express and USFDA

7. MISSION SAGAR - 10 MAY 2020

- As part of the Government of India outreach amidst the ongoing COVID-19 pandemic, *Indian Naval Ship Kesari has departed for Maldives, Mauritius, Seychelles, Madagascar and Comoros.*
- This deployment as 'Mission Sagar', is in line with India's role as the first responder in the region and builds on the excellent relations existing between these countries to battle the COVID-19 pandemic and its resultant difficulties.
- The deployment is in consonance with the *Prime Ministers vision of Security and Growth for All in the Region 'SAGAR'* and highlights the importance accorded by India to relations with her neighbouring countries and further strengthens the existing bond.
- The operation is being progressed in *close coordination with the Ministries of Defence and External Affairs,* and other agencies of the Government of India.

8. The robust indigenous IgG ELISA test for antibody detection developed by ICMR-NIV, Pune will play a critical role in surveillance for COVID-19

- Indian Council of Medical Research (ICMR)-National Institute of Virology (NIV) at Pune has developed and validated the indigenous IgG ELISA test "COVID KAVACH ELISA" for antibody detection for COVID-19.
- While real time RT-PCR is the frontline test for clinical diagnosis of SARS-CoV-2, robust antibody tests are critical for surveillance to understand the proportion of population exposed to infection.
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ELISA Test

- An enzyme-linked immunosorbent assay, also called ELISA or EIA, is a test that detects and measures antibodies in your blood.
- This test can be used to determine if you have antibodies related to certain infectious conditions.
- ❖ Antibodies are proteins that your body produces in response to harmful substances called antigens.
- An ELISA test may be used to diagnose: HIV, which causes AIDS Lyme disease; pernicious anemia; Rocky Mountain spotted fever; rotavirus; squamous cell carcinoma; syphilis; toxoplasmosis; varicella-zoster virus, which causes chickenpox and shingles; and Zika virus.
- ELISA-based tests are blood-based tests, which have high sensitivity and specificity. The sensitivity of a test refers to the percentage of results that will correctly find out the presence of infection in a person and specificity refers to the percentage of results that will correctly find out whether or not a person is infected.
- The test involves drawing the blood of the person. The sample is then placed inside the small wells of an ELISA plate. These plates are coated with the antigen or the inactivated form of the virus. If the blood contains antibodies, it binds to the antigen and a substrate solution is added to the well. The reaction usually produces a colour change, thus detecting antibodies.
- ❖ IgG Elisa-based test means that the test will be done to detect the Immunoglobulin G (IgG) antibody.
- The body produces Immunoglobulin M (IgM) and IgG antibodies to fight against a pathogen.
- ❖ The IgM antibodies are produced in four-seven days after pathogens enter the body while the IgG antibodies are produced between 10-14 days of the pathogen's appearance. If the IgG antibody is detected, it can be concluded that the person was exposed to SARS-CoV-2.

HOW IS IT DIFFERENT FROM RAPID ANTIBODY KITS AND RT-PCR TESTS?

- **ELISA is also a form of a rapid test.** However, other rapid antibody test kits are point-of-care and use a finger-prick method to draw blood. They take much lesser time and do not need a laboratory process to detect antibodies.
- ❖ Both, ELISA-based tests and point-of-care tests are not used for confirming Covid-19 infection and are only used for surveillance purpose. Those who test positive using these tests are usually tested with RT-PCR tests. RT-PCR tests are considered as the gold standard for confirming the presence of
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SARS-CoV-2. RT-PCR is a time consuming, lab-based test and involves the collection of throat and nasal swabs and is not a blood-based test.

SOURCE: News Papers

9. National Technology Day to be celebrated focusing on rebooting the economy through S&T

- A high-level digital conference on 'Rebooting the Economy through Science,

 Technology and Research Translations titled RESTART' will be organised by

 Technology Development Board (TDB) a statutory body of the Department of Science

 & Technology (DST) and Confederation of Indian Industry (CII) on Monday, May 11,

 2020, to celebrate the National Technology Day.
- The day has a historical perspective as it was on May 11, 1998, that India achieved a major technological breakthrough by successfully carrying out nuclear tests at Pokhran. Further, the first indigenous aircraft "Hansa-3" was test flown at Bangalore on this day; and India also performed successful test firing of the Trishul missile on the same day. Since 1999, the day is being celebrated as National Technology Day.

10. Ministry of Tourism organises 17th session of "Dekho Apna Desh" webinar series on 'Exploring River Nila'

- Webinar took the participants to a journey into lesser known towns and villages along the *River Nila also known as Bharathapuzha in Kerala*.
- The focus of Dekho Apna Desh webinar series is promotion of domestic tourism.

River Nila

- ❖ The *Bharathapuzha River is the second longest river* (after Periyar) in Kerala with a length of 209 kilometers. It is also known as Nila, Kuttipuram Puzha and Ponnaniyar.
- ❖ The *river originates in the Annamalai hills* located in the Western Ghats region in Tamil Nadu. It flows in the west direction along with the many of its tributaries including the Tirur River through Palakkad Gap, Palakkad, Thrissur and Malappuram districts of Kerala.
- ❖ The **Bharathapuzha River surrenders itself into the Arabian Sea** at Ponnani.
- Gayathripuzha River, Kannadipuzha River, Kalpathipuzha River and Thuthapuzha River are the main tributaries of the Bharathapuzha.
- 1,500-year-old dance form, Nangiarkoothu is performed in village Pallakad.
 Exclusively performed by women, the dance form recounts epics through
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- elaborate facial expressions and hand gestures, accompanied by two percussionists. The solo act usually features stories of Lord Krishna.
- The Vayali Folk Group is an ensemble of energetic youth from the Valluvanad (southern Malabar) region, keen to find new ways to preserve their Nilainspired folklore.
- **Panchavadyam**, a prominent temple art form is practiced there.

SOURCE: National Geographic and Newspapers

11. Changes in Labour laws across many states

Goa has joined several other states in relaxing labour laws under the *Factories Act of 1948* and approved 12-hour daily work shifts for three months due to the Covid pandemic. The workers would be paid overtime for the extra hours.

Labour Laws in India

- **\diamonum labour falls in the Concurrent List** and there are many laws enacted by the Centre that a state cannot just brush aside.
- Estimates vary but there are over 200 state laws and close to 50 central laws. And yet there is no set definition of "labour laws" in the country.
- Broadly speaking, they can be divided into four categories:
 - Factories Act 1948: The main objectives of the Factories Act, for instance, are
 to ensure safety measures on factory premises, and promote health and
 welfare of workers.
 - The Shops and Commercial Establishments Act: aims to regulate hours of work, payment, overtime, weekly day off with pay, other holidays with pay, annual leave, employment of children and young persons, and employment of women.
 - **The Minimum Wages Act 1948:** covers more workers than any other labour legislation.
 - Industrial Disputes Act, 1947: The most contentious labour law, however, is
 the Industrial Disputes Act, 1947 as it relates to terms of service such as
 layoff, retrenchment, and closure of industrial enterprises and strikes and
 lockouts.
- UP has summarily suspended almost all labour laws including the Minimum Wages Act.

The various labour legislations enacted by the Central Government can be classified into the following different broad categories:

A. Laws relating to Industrial Relations-

- 1. Industrial Disputes Act, 1947
- 2. Trade Unions Act, 1926
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B. Laws relating to Wages

- 1. Minimum Wages Act, 1948
- 2. Payment of Wages Act, 1936
- 3. Payment of Bonus Act, 1965

C. Laws relating to Social Security

- 1. Employees' Provident Funds and Miscellaneous Provisions Act, 1952
- 2. Employees' State Insurance Act, 1948
- 3. Labour Welfare Fund Act (of respective States)
- 4. Payment of Gratuity Act, 1972
- 5. Employee's Compensation Act, 1923

D. Laws relating to Working Hours, Conditions of Services and Employment

- 1. Factories Act, 1948
- 2. Industrial Employment (Standing Orders) Act, 1946
- 3. Shops and Commercial Establishments Act (of respective States)
- 4. Contract Labour (Regulation and Abolition) Act, 1970
- 5. Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979
- 6. Weekly Holiday Act, 1942
- 7. National and Festival Holidays Act (of respective States) 1963
- 8. The Plantation Labour Act, 1951
- 9. The Mines Act, 1952
- 10. The Dock Workers (Safety, Health & Welfare) Act, 1986

E. Laws relating to Equality and Empowerment of Women

- 1. Equal Remuneration Act, 1976
- 2. Maternity Benefits Act, 1961

F. Prohibitive Labour Laws

- 1. Bonded Labour System (Abolition), Act, 1976
- 2. Child Labour (Prohibition & Regulation) Act, 1986
- 3. The Beedi and Cigar Workers (Conditions of Employment) Act, 1966
- 4. The Sexual Harassment at the Workplace (Prevention, Prohibition and Redressal) Act, 2013

G. Laws relating to Employment and Training

- 1. Apprentices Act, 1961
- 2. Employment Exchanges (Compulsory Notification of Vacancies) Act, 1959

SOURCE: Indian Express and Mondaq

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12. 177 new mandis from 10 States & UTs integrated with the e-NAM platform for marketing of Agricultural produce

- ➤ The Union Ministry of Agriculture and Farmers Welfare launched integration of 177 new mandis with the *National Agriculture Market (e-NAM)* to strengthen agriculture marketing and facilitate farmers to sell their harvested produce through the online portal.
- National Agriculture Market (e-NAM) is a highly ambitious and successful scheme of Government of India which networks the existing APMC mandis to create a unified national market for agricultural commodities with a vision to promote uniformity in agriculture marketing by streamlining of procedures across the integrated markets, removing information asymmetry between buyers and sellers and promoting real time price discovery based on actual demand and supply.
- ➤ National Agriculture Market (eNAM), a pan-India electronic trading portal with the objective of integrating the existing Mandis to "One Nation One Market" for agricultural commodities in India, was launched on 14th April 2016, by the Prime Minister.
- > Small Farmers Agribusiness Consortium (SFAC) is the lead agency for implementing eNAM under the aegis of Ministry of Agriculture and Farmers' Welfare, Government of India.

APMC and e-NAM

- Agricultural Produce Market Committee (APMC) is a statutory market committee constituted by a State Government in respect of trade in certain notified agricultural or horticultural or livestock products, under the Agricultural Produce Market Committee Act issued by that state government.
- Under Constitution of India, agricultural marketing is a state (provincial) subject. While intra-state trades fall under the jurisdiction of state governments, interstate trading comes under Central or Federal Government
- ❖ The APMC system was introduced to prevent distress sale by farmers to their creditors, to protect farmers from the exploitation of intermediaries and traders and to ensure better prices and timely payment for their produce through the auctions in the APMC area.
- ❖ The Union Finance Ministry recently urged states to move away from the Agricultural Produce Market Committee (APMC) framework and push for greater adoption of the electronic National Agriculture Market (or e-NAM).

Problem in APMC: Both "agriculture and "markets" are state subjects as per the Indian constitution. Each state has therefore historically had its own APMC Act, with provisions that can vary quite a bit. This lack of uniformity, or rather compatibility, has led to the

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fragmentation of agricultural markets, where each state functions as a separate market. The architecture of state specific APMC laws also introduces a lot of friction in inter-state trade.

What role e-NAM can play: *The e-NAM is an online trading platform,* constructed with the goal of creating a seamless national market where buyers and sellers can transact without being in the same location. When this happens, more buyers can bid for a specific lot. Given that they are dispersed and bid anonymously online, it reduces the opportunities traders have for colluding. This is the main advantage of e-NAM.

SOURCE: Arthapedia and Indian Express

- 13. Government extends last date for receipt of nominations for the Gandhi Peace Prize 2020.
 - The Ministry of Culture invites nominations for awarding Gandhi Peace Prize every year.

Gandhi Peace Prize

- ❖ The Award shall *be given for Social, Economic and Political transformation* through Non-violence and other Gandhian methods.
- There shall be one Award each year and it shall carry an amount of Rupees One Crore and a Citation.
- ❖ The Award may be divided between two persons who are considered by the Jury to be equally deserving of recognition in a given year.
- Work by a person since deceased cannot be the subject of an Award. If, however, his death occurred subsequent to a proposal having been submitted to the Jury in the manner stipulated in this Code, then a Posthumous Award may be made.
- The Award is open to all persons regardless of nationality, race, creed or sex.
- An association, institution or organisation shall also be eligible for the Award.
- The Award shall be made annually starting with the year 1995 and every year thereafter (can be withheld when jury advised).
- Only recent work achieved within ten years immediately preceding the nomination shall be considered for the Award.

SOURCE: Ministry of Culture

- 14. CSIR-National Aerospace Laboratories (NAL), Bengaluru develop BiPAP Non Invasive Ventilator "SwasthVayu" in 36 Days for COVID -19.
- 15. Indian Air Force airlifts essential Chemicals to assist State Government in tackling the Vizag Gas leak
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- Two transport aircraft of IAF (Indian Air Force) were deployed to airlift approximately 1100 kg of Tertiary Butylcatechol and 7.2 T of *Polymerization Inhibitors and Green Retarders* from Mundra, Gujarat to Vizag in Andhra Pradesh.
- These chemicals were required to *reduce the toxicity of the gas* being leaked from the storage tank.

For Details on styrene Gas please refer to previous issue of PIB and AIR news dated 06/05/2020 to 08/05/2020

Green Retarders

- ❖ A retarder is a **chemical agent that slows down a chemical reaction.**
- There are two categories of compounds that are commonly used for polymer control.
- The *first category is a slow-reacting compound*, typically known as a retarder. Today, the most commonly used retarders in the industry are nitrophenolic-based products, and in particular DNBP (2,4-dinitro-6-sec butylphenol).
- The second category is much faster reacting and is sometimes referred to as a true inhibitor.
- The optimal approach to polymer control in a styrene unit is to use a combination of inhibitor and retarder.

SOURCE: Newspapers and Commercial Websites

16. ATAL PENSION YOJANA (APY) - Completion of 5 years

- Launched on 9th May 2015 by Prime Minister Narendra Modi with an objective of delivering old age income security particularly to the workers in the unorganised sector and Government providing guarantee of minimum pension after 60 years of age.
- The scheme has been *implemented comprehensively across the country covering all* states and Union Territories with male to female subscription ratio of 57:43.
- Pension Fund Regulatory and Development Authority (PFRDA), administers Atal Pension Yojana.
- APY can be subscribed by any Indian citizen in the age group of 18-40 years having a bank account and its uniqueness is attributable to three distinctive benefits.
- First, it provides a minimum guaranteed pension ranging from Rs 1000 to Rs 5000 on attaining 60 years of age.
- Secondly the amount of pension is guaranteed for lifetime to spouse on death of the subscriber and lastly, in the event of death of both the subscriber and the spouse, entire pension corpus is paid to the nominee.
- Pension Fund Regulatory and Development Authority (PFRDA) is the statutory Authority established by an enactment of the Parliament, to regulate, promote and
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- ensure orderly growth of the National Pension System (NPS) and pension schemes to which this Act applies.
- NPS was initially notified for central government employees recruits wef 1stJan 2004 and subsequently adopted by almost all State Governments for its employees. NPS was extended to all Indian citizens (resident/non-resident/overseas) on a voluntary basis and to corporates for its employees.

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All India Radio (AIR--News From 09th May to 11th May 2020)

SPECIFIC AIR NEWS NOT COVERED ABOVE

- 1. CSIR receives approval for clinical trial of two drugs, 'phytopharmaceutical & favipiravir' to treat COVID-19
 - The Council for Scientific and Industrial Research (CSIR) has received approval for clinical trial of two drugs to treat COVID-19.
 - > The Drug Controller General of India (DGCI) has given approval for the clinical trials of the drugs *namely, phytopharmaceutical and favipiravir.*
 - Favipiravir is a proven anti influenza drug used in Japan, China, and other countries while *Phytopharmaceutical is an herbal medicine* extracted from plants.
- 2. India extends help to African countries affected by COVID-19; sends medicines to more than 25 countries
 - India is dispatching packages of medicines to more than 25 countries in Africa.
 - The *e-ITEC* course for healthcare workers and others on "COVID-19 Pandemic: Prevention and Management Guidelines for healthcare professional" organised by the Ministry of External Affairs along with its partner AIIMS Raipur is also now been extended to all healthcare workers of Africa.
 - It is worth mentioning that more than 40 per cent of all the training and capacity building slots under ITEC programme has traditionally been earmarked for African countries.

ITEC (Indian Technical and Economic Cooperation Programme)

- The Indian Technical and Economic Cooperation Programme (ITEC) was *launched* by Government of India on 15th September 1964 as a programme of bilateral cooperation and technical assistance.
- ❖ The ITEC Programme is *fully funded by the Government of India*.
- India's external development assistance programmes include Lines of Credit, grant assistance, technical consultancy, disaster relief, humanitarian aid, educational scholarships and a wide range of capacity building programmes including short-term civilian and military training courses.
- ❖ The Development Partnership Administration (DPA) was set up in the Ministry of External Affairs in January 2012.
- Under the ITEC and its sister programmes, the SCAAP (Special Commonwealth Assistance for Africa Programme), and the Technical Cooperation Scheme of
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Colombo Plan, more than **160 countries** are invited to share India's developmental experience acquired over six decades of her existence as a free nation.

SOURCE: MEA and Newspapers

3. Work in progress across world for development of vaccine against COVID19

- Work is on for the development of vaccine against COVID19. Italian scientist has developed a vaccine that produces *antibodies* in mice which can block the virus from infecting human cells.
- ➤ Israel claims its scientists have developed a *monoclonal antibody*, which can neutralize novel corona virus in the body of the carriers.

Antibody and Monoclonal Antibody

- Antibody, also called immunoglobulin, a protective protein produced by the immune system in response to the presence of a foreign substance, called an antigen.
- A wide range of substances are regarded by the body as antigens, including disease-causing organisms and toxic materials such as insect venom.
- When an alien substance enters the body, the immune system is able to recognize it as foreign because molecules on the surface of the antigen differ from those found in the body.
- ❖ To eliminate the invader, the immune system calls on a number of mechanisms, including one of the most important—antibody production.
- ❖ Antibodies are produced by specialized white blood cells called B lymphocytes (or B cells). When an antigen binds to the B-cell surface, it stimulates the B cell to divide and mature into a group of identical cells called a clone. The mature B cells, called plasma cells, secrete millions of antibodies into the bloodstream and lymphatic system.
- ❖ As antibodies circulate, they attack and neutralize antigens that are identical to the one that triggered the immune response.
- Antibodies are grouped into five classes according to their constant region. Each class is designated by a letter attached to an abbreviation of the word immunoglobulin: IgG, IgM, IgA, IgD, and IgE. The classes of antibody differ not only in their constant region but also in activity. For example, IgG, the most common antibody, is present mostly in the blood and tissue fluids, while IgA is found in the mucous membranes lining the respiratory and gastrointestinal tracts.

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Monoclonal Antibody

- Monoclonal antibody produced artificially through genetic engineering and related techniques.
- They are called monoclonal Antibodies (mAbs) when they are produced by clones derived from a single parent cell.
- * These antibodies recognize unique epitopes, or binding sites, on a single antigen.
- Monoclonal antibody generation begins in exactly the same manner as polyclonal antibody generation, with the creation of a robust immune response.
- Monoclonal antibodies, as the name suggests, are cloned from a single recovered cell.
- Thus, they are much easier to create and use, as opposed to polyclonal antibodies which will have to be derived from multiple cells.

SOURCE: Britannica, The Nature and The Print

- 4. India, AIIB (Asian Infrastructure Investment Bank) sign USD 500 million "COVID19 Emergency Response and Health Systems Preparedness Project"
 - This is the first ever health sector support from the Bank to India.
 - New support will cover all States and Union Territories across the country.

AIIB (Asian Infrastructure Investment Bank)

- ❖ The Asian Infrastructure Investment Bank (AIIB) is a China-led financial institution aiming to support infrastructure projects in Asia.
- ❖ To be headquartered in Beijing with authorized capital of \$100 billion, the bank is an open organization and all economies are welcome to join.
- ❖ It has 34 Asian Countries; 18 European countries; 2 African countries; 2 Oceania countries; 1 South American country.
- ❖ India is second largest shareholder after China.
- The AIIB is the second largest multilateral development bank (MDB) by membership after the World Bank.

Asian Development Bank

- Founded in 1966, the Asian Development Bank's (ADB) headquarters are in Manila, Philippines.
- The Asian Development Bank's primary mission is to foster growth and cooperation among countries in the Asia-Pacific Region.
- It has been responsible for a number of major projects in the region and raises capital through the international bond markets. The ADB also relies on member
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- contributions, retained earnings from lending, and the repayment of loans for funding of the organization.
- The two largest shareholders of the Asian Development Bank are the United States and Japan.
- ❖ The ADB provides assistance to its developing member countries, the private sector, and public-private partnerships through grants, loans, technical assistance, and equity investments to promote development.

SOURCE: AIIB and ADB official website

5. India's foreign exchange reserves up by 1.622 million dollars to 481.078 billion dollars.

India's *special drawing rights* with the International Monetary Fund went up by 5 million dollars to 1.426 billion dollars, while the country's reserve position also increased by 489 million dollars to 4.059 billion dollars.

Special Drawing Rights

- India's forex reserves comprise foreign currency assets (FCAs), gold reserves, special drawing rights (SDRs) and India's reserve position with the International Monetary Fund (IMF).
- Foreign Reserve increased due to an increase in foreign currency assets.
- The SDR was created as a supplementary international reserve asset in the context of the Bretton Woods fixed exchange rate system.
- Nonetheless, SDR allocations can play a role in providing liquidity and supplementing member countries' official reserves, as was the case amid the global financial crisis.
- The SDR serves as the unit of account of the IMF and some other international organizations.
- The SDR is neither a currency nor a claim on the IMF. Rather, it is a potential claim on the freely usable currencies of IMF members. SDRs can be exchanged for these currencies.
- ❖ The value of the SDR is determined daily based on market exchange rates.
- Currencies included in the SDR basket have to meet two criteria: the export criterion and the freely usable criterion.
- Under the Articles of Agreement, when certain conditions are met, the IMF may allocate SDRs to members participating in the SDR Department in proportion to their quotas (known as a general allocation).

SOURCE: IMF and Economic Times

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6. India sends INS Kesari with Medical Assistance Teams, essential medicines, food items

- India has sent *Indian Naval Ship Kesari* to Maldives, Mauritius, Madagascar, Comoros and Seychelles, carrying on board two Medical Assistance Teams, consignments of COVID related essential medicines and essential food items.
- 'Mission Sagar' is inspired by Prime Minister's vision of SAGAR Security and Growth for All in the Region.

7.NDMA issues guidelines for restart of manufacturing industries after lockdown

> National Disaster Management Authority (NDMA) has issued guidelines for restart of manufacturing industries after the lockdown.

National Disaster Management Authority

- ❖ The Government of India (GOI), in recognition of the importance of Disaster Management as a national priority, set up a High-Powered Committee (HPC) in August 1999 and a National Committee after the Gujarat earthquake, for making recommendations on the preparation of Disaster Management plans and suggesting effective mitigation mechanisms.
- On 23 December 2005, the Government of India enacted the Disaster Management Act, which envisaged the creation of National Disaster Management Authority (NDMA), headed by the Prime Minister, and State Disaster Management Authorities (SDMAs) headed by respective Chief Ministers, to spearhead and implement a holistic and integrated approach to Disaster Management in India.
- ❖ NDMA, as the apex body, is mandated to lay down the policies, plans and guidelines for Disaster Management to ensure timely and effective response to disasters.
- ❖ National Disaster response force (NDRF) specialized force for disaster response which works under the overall supervision and control of NDMA.
- Union Home secretary is ex-officio chairperson of National Executive Committee (NEC), whereas State Executive Committee (SEC) is Headed by the Chief Secretary of the state.
- Section 25 of the DM Act provides for constitution of DDMA for every district of a state.

SOURCE: NDMA Website and Economic Times

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8.WHO, UN postal agency release commemorative postage stamp on 40th anniversary of eradication of smallpox

- In May 1980, the 33rd World Health Assembly issued its official declaration that the world and all peoples have won freedom from smallpox.
- When WHO's smallpox eradication campaign was launched in 1967, one of the ways countries raised awareness about smallpox was through postage stamps.

9. US approves new Corona Virus antigen test with fast results.

- The FDA said the test can rapidly detect fragments of virus proteins in samples collected from swabs swiped inside the nasal cavity.
- The antigen test is the third type of test to be authorized by the FDA.

Antigen

- Antigens are substances that *cause an immune response in the body by identifying* substances in or markers on cells. Your body produces antibodies to fight antigens, or harmful substances, and tries to eliminate them.
- Simply, Antigens are molecules capable of stimulating an immune response. Each antigen has distinct surface features, or epitopes, resulting in specific responses.
- ❖ Vaccines contain antigens which stimulate the B lymphocytes of the immune system to respond by producing plasma cells which secrete disease specific antibodies (Primary response).
- ❖ Some of the B cells become memory B cells, which will recognise future exposure to the disease. This results in a faster and more intense production of antibodies, which effectively work to eliminate the disease by binding to the antigens (Secondary response).

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Comparison Chart on Differences Between Antigen & Antibody

	Antigen	Antibody
Overview	Substance that can induce an immune response	Proteins that recognize and bind to antigens
Molecule type	Usually proteins, may also be polysaccharides, lipids or nucleic acids	Proteins
Origin	Within the body or externally	Within the body
Specific binding site	Epitope	Paratope
Image		

Source: Newspapers

10. MSME Ministry launches CHAMPIONS portal

- Micro, Small and Medium Enterprises, MSME Ministry has launched CHAMPIONS portal, a technology driven control room-cum-management information system.
- The initiative is aimed at assisting Indian MSMEs to march into big league as national and global champions.
- The CHAMPIONS stand for Creation and Harmonious Application of Modern Processes for Increasing the Output and National Strength.
- The portal is basically for making the smaller units big by solving their grievances, encouraging, supporting, helping and handholding.
- The system is **enabled by Artificial Intelligence**, **Data Analytics and Machine Learning**.
- It is also fully integrated on real time basis with GOI's main grievances portal CPGRAMS and MSME Ministry's web-based mechanisms.

11. FM Nirmala Sitaraman launches (INR-USD) Future and Options contracts on BSE's India INX & NSE's NSE-IFSC at GIFT

- Finance Minister launched INR-USD (Rupee-Dollar) Futures and Options contracts on the two International Exchanges, BSE's India INX and NSE's NSE-IFSC, at GIFT International Financial Services Centre in Gandhinagar.
- This would also bring larger global participation in India through IFSC and connect India's IFSC globally.
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Future and Option

- Options and futures are both financial products investors can use to make money or to hedge current investments. Both an option and a future allow an investor to buy an investment at a specific price by a specific date.
- An options contract gives an investor the right, but not the obligation, to buy (or sell) shares at a specific price at any time, as long as the contract is in effect. By contrast, a futures contract requires a buyer to purchase shares—and a seller to sell them—on a specific future date, unless the holder's position is closed before the expiration date.
- Options are based on the value of an underlying security such as a stock whereas, Options are a derivative form of investment. They may be offers to buy or to sell shares but don't represent actual ownership of the underlying investments until the agreement is finalized.

SOURCE: Investopedia and Angel Broking

12. Newly born Olive Ridley turtles along Odisha coast start their journey back to sea

As of late March, Olive Ridley turtles settled in the Gahirmatha and Rushikulya rookery in the eastern state and laying their eggs in the sand.

Olive Ridley Turtles

- ❖ They are currently the most abundant of all sea turtles. Their vulnerable status comes from the fact that they nest in a very small number of places, and therefore any disturbance to even one nest beach could have huge repercussions on the entire population.
- Known for its mass nesting aggregations called arribadas (meaning "arrival" in Spanish).
- Olive Ridley turtles live globally in the coastal waters of at least 80 countries.
- The warmer the eggs are during incubation the more females will be produced.
 Likewise, if the nest is colder, there will be more males.

SOURCE: WWF and Oceana

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SUMMARY AND RELEVANT TERMS EXPLAINED FROM PIB AND AIR

DATED: 12-05-2020 TO 14-05-2020



Public Information Bureau (PIB-- News From 12th May to 14th May 2020)

1. PM gives a clarion call for Atmanirbhar Bharat

- PM gives a call for self-reliant India; lays down five pillars of Atmanirbhar Bharat. Self-reliant India will stand on five pillars viz.
 - **Economy**, which brings in quantum jump and not incremental change;
 - Infrastructure, which should become the identity of India;
 - System, based on 21st century technology driven arrangements;
 - Vibrant Demography, which is our source of energy for a self-reliant India; and
 - Demand, whereby the strength of our demand and supply chain should be utilized to full capacity
- Special economic package of Rs. 20 Lac crores will also focus on land, labour, liquidity and laws.
- Mentioned about the JAM Trinity.

JAM Trinity

- JAM (short for Jan Dhan-Aadhaar-Mobile) trinity is the initiative by Government of India to link Jan Dhan accounts, Mobile numbers and Aadhar cards of Indians to directly transfer subsidies to intended beneficiaries and eliminate intermediaries and leakages.
- With Aadhaar helping in direct biometric identification of disadvantaged citizens and Jan Dhan bank accounts and mobile phones allowing direct transfers of funds into their accounts, it may be possible to cut out all the intermediaries.
- ❖ First variety of JAM- PAHAL scheme of transferring LPG subsidies via DBT -has reduced leakages by 24 per cent.
- Economic survey 2015-16 has formulated JAM-Preparedness Indices for Urban and Rural areas in each state.
 - It uses Aadhaar penetration, basic bank account penetration and Banking Correspondents (BC) density as indicators for the indices.
 - It has also prepared Biometrically Authenticated Physical Update or BAPU-Preparedness Index, using Aadhaar penetration and Point of Sale machines as indicators, for each state and has compared Rural-JAM Preparedness Index with BAPU-Preparedness Index.
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SOURCE: Business Line and Economic Survey 205-16

2. BPPI Contributes Rs.25 Lakh to PMCARES fund

- To support government in its fight against COVID-19, *Bureau of Pharma PSUs of India (BPPI)*Under the Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers has contributed Rs. 25 Lakh to *PMCARES fund*.
- > Bureau of Pharma PSUs of India (BPPI), is the implementing agency of the PMBJP (Pradhan Mantri Bhartiya Janaushadhi Pariyojana)

Bureau of Pharma PSUs of India

- BPPI was established in December 2008, under the department of Pharmaceuticals.
- ❖ The bureau has been registered as an *independent society* under Society Registration Act 1860 as a separate legal entity in April 2010.
- It comprises all the Pharma CPSUs under the Department of Pharmaceuticals. The Bureau will bring about effective collaboration and cooperation in furthering the working and resources of these organizations.
- * **BPPI follows the provisions of GFR** (General Financial Rules), 2005 as amended from time to time, the CVC guidelines, and instructions from the Department of Pharmaceuticals.
- Under the mandate, BPPI is required to coordinate with States to open stores, monitor functioning of the stores, fixing Maximum Retail Prices (including fixing common prices, in consultation with NPPA for the medicines manufactured by the CPSUs for Jan Aushadhi supply) and also suggest/approve common super stockiest to ensure a proper supply chain mechanism.

SOURCE: BPPI Website and Newspapers

PMCARES fund

- ★ Keeping in mind the need for having a dedicated national fund with the primary objective of dealing with any kind of emergency or distress situation, like posed by the COVID-19 pandemic, and to provide relief to the affected, a public charitable trust under the name of 'Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund' (PM CARES Fund)' has been set up.
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- Prime Minister is the ex-officio Chairman of the PM CARES Fund and Minister of Defence, Minister of Home Affairs and Minister of Finance, Government of India are ex-officio Trustees of the Fund.
- The Chairperson of the Board of Trustees (Prime Minister) shall have the power to nominate three trustees to the Board of Trustees who shall be eminent persons in the field of research, health, science, social work, law, public administration and philanthropy.
- Any person appointed a *Trustee shall act in pro bono* (denoting work undertaken without charge) capacity.
- The fund consists entirely of voluntary contributions from individuals and organisations and does not get any budgetary support.
- PM CARES fund has also got exemption under the FCRA (Foreign Contribution Regulation Act, 2010) and a separate account for receiving foreign donations has been opened and it will be made operational soon. This will enable PM CARES Fund to accept donations and contributions from individuals and organizations based in foreign countries. This is consistent with respect to Prime Minister's National Relief Fund (PMNRF). PMNRF has also received foreign contributions as a public trust since 2011.

PMNRF

- The Prime Minister's National Relief Fund (PMNRF) was set up in January 1948, originally to accept public contributions for the assistance of Partition refugees.
- It is now used to provide immediate relief to the families of those killed in natural calamities and the victims of major accidents and riots and support medical expenses for acid attack victims and others.
- The PMNRF was originally managed by a committee which included the Prime Minister and his deputy, the Finance Minister, the Congress President, a representative of the Tata Trustees and an industry representative. However, in 1985, the committee entrusted the entire management of the fund to the Prime Minister, who currently has sole discretion for fund disbursal. A joint secretary in the PMO administers the fund on an honorary basis.
- The decision to allow uncapped corporate donations to the fund to count as CSR (Corporate Social Responsibility) expenditure a facility not provided to PMNRF or the CM's Relief Funds goes against previous guidelines stating that CSR should not be used to fund government schemes.

SOURCE: PMCARES Website and Newspapers

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3. Amid lockdown HIL (India) limited eying big orders from African countries

- ➢ HIL (India) limited, a PSU under Department of Chemicals & Petrochemicals, Ministry of Chemicals and Fertilizers written letter to ten Southern African Development Community (SADC) for supply of DDT in view of warning issued by World Health Organisation about increase in Malaria cases in the region in coming months.
- Apart from Malathion Technical production, HIL is also continuing for Locust control programme.

Southern African Development Community

- The Southern African Development Coordinating Conference (SADCC), established on 1 April 1980 was the precursor of the Southern African Development Community (SADC).
- SADCC was formed to *advance the cause of national political liberation in Southern*Africa, and to reduce dependence particularly on the then apartheid era South Africa;
 through effective coordination of utilisation of the specific characteristics and strengths of each country and its resources.
- ➤ **Main objectives of SADC** are to achieve development and economic growth, alleviate poverty, enhance the standard and quality of life of the peoples of Southern Africa and support the socially disadvantaged through regional integration.
- > The Government of India signed the Memorandum of Understanding on economic cooperation with SADC on 14th Oct 1997.
- As a follow up to the MOU signed in Oct 1997, the *First India SADC Forum meeting was held in Windhoek on 28th April 2006.*

SOURCE: SADC Website and MEA Paper

Malathion Technical production

- Malathion is not known to occur as a natural substance.
- Malathion is a nonsystemic broad-spectrum organophosphorus (OP) contact, stomach, and respiratory insecticide and acaricide effective by direct contact, oral ingestion, and inhalation exposure that is used in agriculture and horticulture applications.
- Malathion is applied to a wide variety of crops.
- Malathion is a broad-spectrum insecticide used to *control a variety of outdoor* insects in both agricultural and residential settings.
- ➤ **Malathion is registered for use on** food, feed, and ornamental crops and in mosquito, boll weevil and fruit fly eradication programs.

SOURCE: USFDA and FAO

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Locust control programme

- The Indian Agriculture is highly prone to Desert Locust. *The Desert Locust is a trans-boundary pest which can cause irreparable damages.*
- In all, there are *three breeding seasons for locusts* (i) Winter breeding [November to December], (ii) Spring breeding [January to June] and (iii) Summer breeding [July to October].
- India has only one locust breeding season and that is Summer breeding. The neighboring country Pakistan has both spring and summer breeding.
- In India, the *scheme Locust Control and Research (LC&R) is responsible* for control of Desert Locust and is being implemented through Organisation known as "Locust Warning Organisation (LWO)" established in 1939 and later amalgamated with the Directorate of Plant Protection Quarantine and Storage in 1946.
- Locust Warning organization (LWO) is responsible to monitor and control the locust situation in Scheduled Desert Area (SDA) mainly in the States of Rajasthan and Gujarat while partly in the States of Punjab and Haryana by way of intensive survey, surveillance, monitoring and control operations where required.
- Locust Control and Research is a sub-component under the Sub Mission on Plant Protection and Plant Quarantine (SMPPQ), a scheme under Green Revolution (Krishonnati Yojana) through which regulatory, monitoring, surveillance and capacity building functions are performed.
- Food and Agriculture Organization (FAO) of the United Nations provides Locust situation, Current upsurge, Desert Locust Bulletin and Risk map as part of its Locust Watch initiative.
- The initiative aims to monitor the world-wide locust situation and keep affected countries and donors informed of expected developments.
- > The significance of Plant Quarantine has increased in view of Globalization and liberalization in International trade of plants and plant material in the wake of **Sanitary and Phytosanitary (SPS) Agreement under WTO.**

SOURCE: FAO, India Today and Min. of Agriculture

4. India needs a 30-fold increase in renewable energy, 30-fold increase in nuclear energy and doubling of thermal energy, making 70% of energy carbon-free: Dr. Anil Kakodkar

- ➤ He explained about the *correlation between Human Development Index (HDI) and Per Capita Energy Consumption* all over the world.
- As per the statistics, countries with higher HDI where citizens enjoy high quality of life have higher per capita consumption of energy.
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- As per the report of Inter-Governmental Panel on Climate Change, "staying below 1.5 degree increase in 2,100 will require cuts in Green House Gas (GHG) emissions of 45% below 2010 levels by 2030 and to net zero by 2050";
- With the contribution of nuclear energy, the cost of deep decarbonisation can be reduced.
- > **Decarbonising means** reducing carbon intensity, i.e. reducing the emissions per unit of electricity generated (often given in grams of carbon dioxide per kilowatt-hour).
- > Decarbonisation is possible by increasing the share of low-carbon energy sources, particularly renewables like solar, hydro and biomass together with nuclear which can greatly contribute in achieving zero emissions to a great extent.
- India adopts the policy of 'Nuclear Recycle Technology' where the nuclear fuel Uranium, Plutonium etc, once used for generation of energy, is reused as a resource material by the commercial industries to be recycled. *More than 99% of Nuclear waste is reused as the waste management program in India prioritises recycling.*

Decarbonisation

- ❖ Decarbonisation means reducing greenhouse gas (GHG) emissions produced as a result of transport, including emissions released directly during transport and emissions due to the production of transport - for example emissions from the production of electricity used to power a given mode.
- Decarbonisation also includes emissions resulting from the manufacture and/or disposal/recycling of products and vehicles.
- Stabilizing climate change entails reducing net emissions of carbon dioxide (CO2) to zero. As long as we emit more than nature can absorb in its sinks (oceans, forests, and other vegetation), concentrations of CO2 in the atmosphere will keep rising, and the climate will keep warming.
- The latest science also tells us that we need to reach zero net emissions by 2100 to stabilize climate change around the 2°C target above preindustrial temperatures that has been agreed by governments as the maximum acceptable amount of warming.
- Decarbonization means zero net emissions of CO2 —as well as the stabilization of emissions of short-lived greenhouse gases such as methane that dissipate in the atmosphere in days, weeks, or decades. Here, we should emphasize that carbon neutrality or decarbonization does not imply no emissions whatsoever.
- Positive emissions in some sectors and some countries can be offset, to some extent, through natural carbon sinks and negative emissions in other sectors and countries.

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SOURCE: World Bank and WEF

5. International Nurses Day observed

- This International Nurses Day marks the **200th anniversary of the birth of Florence Nightingale.**
- This year is also significant as World Health Organization (WHO) has declared it as the 'Year of the Nurse and the Midwife'.

Midwife

- "A midwife is a person who has successfully completed a midwifery education programme that is duly recognized in the country where it is located and that is based on the International Confederation of Midwives (ICM) Essential Competencies for Basic Midwifery Practice and the framework of the ICM Global Standards for Midwifery Education; who has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery and use the title 'midwife' and who demonstrates competency in the practice of midwifery." (International Confederation of Midwives, 2015)
- ❖ In 1946, the Bhore Committee laid stress on the need for qualified midwives, health visitors, and the training of dais.
- ❖ In 1955, the Shetty Committee recommended the training of Auxiliary Nurse Midwife (ANMs) in health centers for maternal and child health services, provided there were adequate health visitors to supervise them.
- The presence of a skilled midwife at birth is the single most important factor for achieving safe motherhood (WHO).
- The ANM (in India), who is designated as the Multi-purpose health worker (female), is registered as a midwife.
- * Birthing centres that are run by midwives offer services that take care of the physical, psychological, and social well-being of the mother during her childbearing cycle, helping her with labour, delivery and post-partum support.
- Midwifery still remains an occupation without a professional identity in India. The only recognised body is the International Confederation of Midwives (ICM), founded in 1919. This represents a federation of midwifery associations from 75 nations of the world.
- The government of India announced Guidelines on Midwifery Services, which include recommendations for midwifery training and certification, at Partners' Forum, a World Health Organization (WHO)-led global forum for maternal, new born and child health, in Delhi in December 2018.

SOURCE: The Hindu, National Health Mission and WHO

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6. Ek Bharat Shreshtha Bharat Campaign.

To celebrate the spirit of Unity in Diversity of our Nation, the Government is running *Ek Bharat Shreshtha Bharat Campaign*.

Ek Bharat Shreshtha Bharat Campaign

- The idea of a sustained and structured cultural connect between denizens of different regions was mooted during the Rashtriya Ekta Divas held on 31st October 2015, to commemorate the birth anniversary of Sardar Vallabhbhai Patel.
- ❖ Every State and UT in the country would be paired with another State/UT for a year, during which they would carry out a structured engagement with one another in the spheres of language, literature, cuisine, festivals, cultural events, tourism etc. For example, Andhra Pradesh is paired with Punjab for the year 2017.
- ❖ The paired States/UTs signed MoUs with each other, delineating a set of activities that they would carry out. An activity calendar for each pair was prepared through mutual consultation, paving the way for a year long process of mutual engagement.

The broad objectives of the initiative are as follows

- *i.* **To CELEBRATE** the Unity in Diversity of our Nation and to maintain and strengthen the fabric of traditionally existing emotional bonds between the people of our Country;
- *ii.* **To PROMOTE** the spirit of national integration through a deep and structured engagement between all Indian States and Union Territories through a year-long planned engagement between States;
- *iii.* **To SHOWCASE** the rich heritage and culture, customs and traditions of either State for enabling people to understand and appreciate the diversity that is India, thus fostering a sense of common identity
- iv. TO ESTABLISH long-term engagements and,
- v. **TO CREATE** an environment which promotes learning between States by sharing best practices and experiences.

SOURCE: EBSB Website

The *Ministry for HRD is the nodal ministry for EBSB campaign* which is run along with several other partner ministries and states.

7. Ministry of MSME Launches CHAMPIONS Portal

- ➤ It is a Technology driven Control Room-Cum-Management Information System. *The system utilising modern ICT tools is aimed at assisting Indian MSMEs march into big league as National and Global CHAMPIONS.*
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- ➤ The portal is basically for *making the smaller units big* by solving their grievances, encouraging, supporting, helping and handholding. It is a real one-stop-shop solution of MSME Ministry.
- In addition to ICT tools including telephone, internet and video conference, the system is enabled by *Artificial Intelligence*, *Data Analytics and Machine Learning*.
- As part of the system a network of control rooms is created in a Hub & Spoke Model. The Hub is situated in New Delhi in the Secretary MSME's office. The spokes will be in the States in various offices and institutions of Ministry.

Artificial Intelligence and Machine Learning

- Al is a bigger concept to create intelligent machines that can simulate human thinking capability and behavior, whereas, machine learning is an application or subset of Al that allows machines to learn from data without being programmed explicitly.
- Whereas, Machine learning is a subfield of artificial intelligence, which enables machines to learn from past data or experiences without being explicitly programmed.
- Al could prove to be most beneficial in areas like agriculture, manufacturing, education and health care services in India.
- ❖ Al can also impact agriculture in India by helping the sector with accurate climate patterns, more sustainable irrigation and water management, which will be crucial in light of the growing water crisis in the country.
- Cybercriminals use Artificial Intelligence (AI) software now easily available on apps and websites to superimpose a digital composite (assembling multiple media files to make a final one) on to an existing video, photo or audio.
- . Deep fake videos can be also made through AI.

Difference between AI and ML

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Artificial Intelligence	Machine learning
Artificial intelligence is a technology which enables a machine to simulate human behavior.	Machine learning is a subset of AI which allows a machine to automatically learn from past data without programming explicitly.
The goal of AI is to make a smart computer system like humans to solve complex problems.	The goal of ML is to allow machines to learn from data so that they can give accurate output.
In AI, we make intelligent systems to perform any task like a human.	In ML, we teach machines with data to perform a particular task and give an accurate result.
Machine learning and deep learning are the two main subsets of AI.	Deep learning is a main subset of machine learning.
AI has a very wide range of scope.	Machine learning has a limited scope.
AI is working to create an intelligent system which can perform various complex tasks.	Machine learning is working to create machines that can perform only those specific tasks for which they are trained.
AI system is concerned about maximizing the chances of success.	Machine learning is mainly concerned about accuracy and patterns.
The main applications of AI are Siri, customer support using catboats , Expert System, Online game playing, intelligent humanoid robot, etc.	The main applications of machine learning are Online recommender system, Google search algorithms, Facebook auto friend tagging suggestions, etc.
On the basis of capabilities, AI can be divided into three types, which are, Weak AI , General AI , and Strong AI .	Machine learning can also be divided into mainly three types that are Supervised learning, Unsupervised learning, and Reinforcement learning.
It includes learning, reasoning, and self-correction.	It includes learning and self-correction when introduced with new data.
AI completely deals with Structured, semi-structured, and unstructured data.	Machine learning deals with Structured and semi-structured data.

SOURCE: Forbes, JAVA Net and Indian Express

8. Transformation of manufacturing companies post COVID-19

Expert agreed that the novel materials such as *smart materials, special purpose alloys,* engineering polymers & blends, graphene, composites, etc. will be the key to revamping the industry's product lines in the future.

Smart Materials

- "Smart materials" refer to those materials which have the ability to change their composition or structure, their electrical and/or mechanical properties, or even their functions in respond to some environmental stimuli like temperature, pressure, magnetic and electric fields, chemical, or nuclear radiation.
- These *changes are reversible and can be repeated many times* which is what makes smart materials so amazing.
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Smart materials include thermochromic pigments, shape memory polymer, shape memory alloy and hydrogels.

SOURCE: BBC and Business Standards

- Expert stressed that *additive manufacturing* can change the fundamentals of manufacturing, and hence needed to be adapted rapidly.
- ➤ International R&D Cooperation Team Korea Institute for Advancement of Technology reflected that they are working closely with *Global Innovation & Technology Alliance (GITA)* in India in S&T field.

Additive manufacturing

- Additive Manufacturing (AM) is an appropriate name to describe the technologies that build 3D objects by adding layer-upon-layer of material, whether the material is plastic, metal, concrete or one day.....human tissue.
- Additive manufacturing uses data computer-aided-design (CAD) software or 3D object scanners to direct hardware to deposit material, layer upon layer, in precise geometric shapes.
- As its name implies, additive manufacturing adds material to create an object. By contrast, when you create an object by traditional means, it is often necessary to remove material through milling, machining, carving, shaping or other means.
- Although the terms "3D printing" and "rapid prototyping" are casually used to discuss additive manufacturing, each process is actually a subset of additive manufacturing.
- Simply, the term "additive manufacturing" references technologies that grow threedimensional objects one superfine layer at a time. Each successive layer bonds to the preceding layer of melted or partially melted material.
- ❖ It is possible to use different substances for layering material, including metal powder, thermoplastics, ceramics, composites, glass and even edibles like chocolate.

SOURCE: GE Website and Research Papers

Global Innovation & Technology Alliance (GITA)

- Global Innovation & Technology Alliance (GITA) is a "not-for-profit" Section-8 Public Private Partnership (PPP) company promoted jointly by the Technology Development Board (TDB), Department of Science & Technology (DST), Government of India and the Confederation of Indian Industry (CII)
- The Prime Minister's Council on Trade & Industry had, in 2010, recommended incorporation of a Government's arm's length entity under PPP mode to professionally manage the
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- Government's funds for providing flexibility to industry for undertaking R&D along with global partners.
- In order to stimulate private sector's investment in R&D, TDB established GITA as a Section 25 Company in a Joint Venture between CII and TDB with equity contribution of 51:49 respectively.
- ❖ The GITA will assist DST in implementing Industrial R&D Programme with different countries under bilateral & multilateral Science & Technology Cooperation agreements.
- ❖ In these country-specific programmes, if one industry from India and one industry from another country proposed jointly to do R&D for developing a marketable product, both the governments will provide financial support up to 50% of project cost to their respective industries.

SOURCE: GITA website and TDB website

9. Quick Estimates of Index of Industrial Production and Use-Based Index for the month of March, 2020 (Base 2011-12=100)

The Quick Estimates of *Index of Industrial Production (IIP)* is released on 12th of every month (or previous working day) with a six weeks lag and compiled with data received from source agencies, who in turn receive the data from the producing factories/establishments.

Index of Industrial Production (IIP)

- ❖ The Index of Industrial Production (IIP) is an index which shows the growth rates in different industry groups of the economy in a stipulated period of time.
- The IIP index is computed and published by the Central Statistical Organisation (CSO) on a monthly basis.
- IIP is a composite indicator that measures the growth rate of industry groups classified under:
 - Broad sectors, namely, Mining, Manufacturing and Electricity
 - Use-based sectors, namely Basic Goods, Capital Goods and Intermediate Goods.
- ❖ IIP is a key economic indicator of the manufacturing sector of the economy. *IIP index is currently calculated using 2011-2012 as the base year.*
- Electricity, crude oil, coal, cement, steel, refinery products, natural gas, and fertilisers are the eight core industries that comprise about 40 percent of the weight of items included in the Index of Industrial Production.
- The data is also used to compile the Gross Value Added (GVA) of the manufacturing sector in the Gross Domestic Product (GDP).
- **The CSO uses secondary data to reach the monthly IIP number.** The data is sourced from various agencies in different ministries or departments of the government.

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IIP vs ASI

While the IIP is a monthly indicator, the Annual Survey of Industries (ASI) is the prime source of long-term industrial statistics. The ASI is used to track the health of the industrial activity in the economy over a longer period. The index is compiled out of a much larger sample of industries compared to IIP.

SOURCE: Ministry of Statistics and Programme Implementation (MoSPI) and Financial Express

10. Agriculture Minister interacts with Pesticide Industry representatives on the Desert Locust Control

Locusts, Hoppers and Pink Swarms have been controlled in more than 14,000 hectares of land in Rajasthan and Punjab.

Locusts

- Locusts are a *group of short-horned grasshoppers that multiply in numbers* as they migrate long distances in destructive swarms (up to 150km in one day).
- The swarms devour leaves, flowers, fruits, seeds, bark and growing points, and also destroy plants by their sheer weight as they descend on them in massive numbers.
- Four species of locusts are found in India: Desert locust (Schistocerca gregaria), Migratory locust (Locusta migratoria), Bombay Locust (Nomadacris succincta) and Tree locust (Anacridium sp.).
- ❖ The desert locust is regarded as the most destructive pest in India as well as internationally, with a small swarm covering one square kilometre, containing about 40 million locusts, being able to consume the same amount of food in one day as 35,000 people.
- The Food and Agriculture Organisation (FAO) of the United Nations has currently identified three hotspots of threatening locust activity, where the situation has been called "extremely alarming" the Horn of Africa, the Red Sea area, and southwest Asia.

SOURCE: Indian Express, The Hindu and FAO

11. Various steps taken by the FCI to ensure availability of food grains across the country

During the lockdown, NGOs and social institutions running relief camps can purchase wheat and rice directly from FCI Depots at *Open Market Sales Scheme (OMSS) rate*. The State Governments can also purchase food grains directly from FCI.

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Open Market Sales Scheme (OMSS)

- ❖ Food Corporation of India sells surplus stocks of wheat and rice under Open Market Sale Scheme (Domestic) at pre-determined prices through e-auction in the open market from time to time to enhance the supply of food grains, especially wheat during the lean season and thereby moderate the open market prices specially in the deficit regions.
- The State Governments/ Union Territory Administrations are also allowed to participate in the e-auction, if they require wheat and rice outside TPDS (Targeted Public Distribution System) & OWS (Other Welfare Scheme).

SOURCE: FCI Website

12. Cyclone Amphan alert: Formation of a Low Pressure area over southeast Bay of Bengal and adjoining south Andaman Sea and its likely intensification into a Cyclonic Storm by 16th May, evening

Low Pressure

- ❖ A low-pressure system has lower pressure at its center than the areas around it. Winds blow towards the low pressure, and the air rises in the atmosphere where they meet.
- ❖ As the air rises, the water vapor within it condenses, forming clouds and often precipitation. Because of Earth's spin and the Coriolis Effect, winds of a low-pressure system swirl counterclockwise north of the equator and clockwise south of the equator. This is called cyclonic flow.
- Pressure varies from day to day at the Earth's surface the bottom of the atmosphere. This is, in part, because the Earth is not equally heated by the Sun. Areas where the air is warmed often have lower pressure because the warm air rises. These areas are called low pressure systems. Places where the air pressure is high, are called high pressure systems.
- Air pressure depends on the temperature of the air and the density of the air molecules.
- On a weather map, low pressure areas are label with an "L" and high pressure areas are labeled with an "H."

SOURCE: IMD Website

Cyclonic Storm

- ❖ A "Cyclonic Storm" or a "Cyclone" is an intense vortex or a whirl in the atmosphere with very strong winds circulating around it in anti-clockwise direction in the Northern Hemisphere and in clockwise direction in the Southern Hemisphere.
- Cyclones are intense low-pressure areas from the centre of which pressure increases outwards- The amount of the pressure drop in the centre and the rate at which it increases outwards gives the intensity of the cyclones and the strength of winds.
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- ❖ The central calm region of the storm is called the "Eye". The diameter of the eye varies between 30 and 50 km and is a region free of clouds and has light winds.
- Around this calm and clear eye, there is the "Wall Cloud Region" of the storm about 50 km in extent, where the gale winds, thick clouds with torrential rain, thunder and lightning prevail.
- ❖ Away from the "Wall Cloud Region", the wind speed gradually decreases Cyclones form in certain favourable atmospheric and Oceanic conditions. There are marked seasonal variations in their places of origin, tracks and attainment of intensities. These behaviours help in predicting their movements.
- Cyclones affect both the Bay of Bengal and the Arabian Sea. They are rare in Bay of Bengal from January to March. Isolated ones forming in the South Bay of Bengal move west north westwards and hit Tamil Nadu and Sri Lanka coasts.
- Cyclones do not form in Arabian sea during the months of January, February and March and are rare in April, July, August and September. They generally form in southeast Arabian Sea and adjoining central Arabian Sea in the months of May, October, November and December and in east central Arabian Sea in the month of June.
- The India Meteorological Department (IMD) classifies cyclones on the basis of the maximum sustained surface wind speed (MSW) they generate.
- ❖ The cyclones are classified as severe (MSW of 48-63 knots), very severe (MSW of 64-89 knots), extremely severe (MSW of 90-119 knots) and super cyclonic storm (MSW of 120 knots or more). One knot is equal to 1.8 kmph.
- Generally, tropical cyclones over the Bay of Bengal have a lifespan of four-seven days.
- Most cyclones that generate exclusively in the Bay of Bengal become relatively weaker by the time they reach the Indian landmass. However, the case with Cyclone Fani (2019) is different since it developed almost close to the Equator.

SOURCE: IMD and Indian Express

13. Reduction in rate of Tax Deduction at Source (TDS) & Tax Collection at Source (TCS)

- ➤ In order to provide more funds at the disposal of the taxpayers for dealing with the economic situation arising out of COVID-19 pandemic, the rates of *Tax Deduction at Source* (TDS) has been reduced by 25% for the period from 14th May 2020 to 31st March 2021.
- Further, the rate of *Tax Collection at Source (TCS)* has also been reduced by 25% for the same period.

Tax Deduction at Source and Tax Collection at Source

- * TDS was introduced to collect tax at the source from where an individual's income is generated. The government uses TDS as a tool to collect tax in order to minimise tax
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- evasion by taxing the income (partially or wholly) at the time it is generated rather than at a later date.
- TDS is applicable on the various incomes such as salaries, interest received, commission received etc.
- ❖ The person who is making the payment is responsible for deducting the tax and depositing the same with government. This person is known as 'deductor'. On the other hand, the person who receives the payment after the tax deduction is called 'deductee'. Form26AS is a statement which shows the amount of tax deducted and deposited in a person's name/PAN in a particular financial year.
- ★ Tax collected at source (TCS) is the tax payable by a seller which he collects from the buyer at the time of sale. Section 206C of the Income-tax act governs the goods on which the seller has to collect tax from the purchasers.
- ***** Both of these are levied at the point of the origin of income.

Parameters	TDS	TCS
Definition	Tax deducted on payments made by companies and individuals if the payment exceeds a threshold.	Tax collected by a seller when selling goods to a buyer
What does it apply to?	TDS deductions are made on payments including salary, rent, brokerage, professional fees, commission, interest etc.	TCS deductions are made on the sale of goods such as scrap, timber, mineral wood, tendu leaves etc
When does it apply?	On payments above a specified limit	On the sale of certain goods (barring those used for manufacturing or production)
Who does it apply to?	A person making a specified payment over and above a certain limit can deduct TDS according to the Income Tax Act 1961	A person selling specific goods can collec TCS according to the Income Tax Act, 1961

SOURCE: Economic Times and Aegon Life Website

14. Ministry of Tourism organises 18th webinar titled 'Odisha-India's Best kept secret' under "Dekho Apna Desh" series

- The Ministry of Tourism's Dekho Apna Desh webinar series on 12th May 2020, titled, 'Odisha-India's Best kept secret' took the participants on a virtual journey into Odisha.
- The virtual journey covered places like Bhitarkanika Wildlife Sanctuary, Udaipur Beach, Manglajodi unique wetland, Satpada, Chilika lake known for sighing of unique irrawady dolphins, Simlipal National Park, Debrigarh National Park –Ecotourism site at Hirakud
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reservoir, waterfall, Silent Valley – Gorge, Daringbadi nature Camp ,Mahanadi Gorge , Bhetnoi, popular dance forms such as Odissi, Gotipua.

Wetland

- Wetlands occur where water meets land. They include mangroves, peatlands and marshes, rivers and lakes, deltas, floodplains and flooded forests, rice-fields, and even coral reefs.
- **Wetlands exist in every country and in every climatic zone,** from the polar regions to the tropics, and from high altitudes to dry regions.
- Wetlands are areas where water is the primary factor controlling the environment and the associated plant and animal life. They occur where the water table is at or near the surface of the land, or where the land is covered by water.
- As per Ramsar convention "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres".
- Five major wetland types are generally recognized:
 - marine (coastal wetlands including coastal lagoons, rocky shores, and coral reefs);
 - estuarine (including deltas, tidal marshes, and mangrove swamps);
 - *lacustrine* (wetlands associated with lakes);
 - *riverine* (wetlands along rivers and streams); and
 - *palustrine* (meaning "marshy" marshes, swamps and bogs).
- Wetlands are among the world's most productive environments. They are cradles of biological diversity, providing the water and primary productivity upon which countless species of plants and animals depend for survival.
- Wetlands are also important storehouses of plant genetic material. Rice, for example, which is a common wetland plant, is the staple diet of more than half of humanity.
- Wetlands also absorb excess nutrients, sediments, and other pollutants before they reach rivers, lakes, and other waterbodies.
- **❖** Wetlands filter water, providing flood and erosion control.
- ❖ In 1971 the Ramsar Convention on Wetlands was adopted in Ramsar, Iran.
- * Ramsar site is designation for "Wetlands of International Importance". "They are recognised as being of significant value not only for the country or the countries in which they are located, but for humanity as a whole... The inclusion of a wetland in the list embodies the government's commitment to take the steps necessary to ensure that its ecological character is maintained. The Convention includes various measures to respond to threats to the ecological character of Sites,"

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SOURCE: Ramsar, WWF, NOAA Websites and Indian Express

15. Dr Harsh Vardhan dedicates COBAS 6800 testing machine to the nation

- This is the first such testing machine that has been procured by the Government for testing of COVID-19 cases and is installed at the National Centre for Disease Control.
- COBAS 6800 *can also detect other pathogens* like Viral Hepatitis B & C, HIV, MTb (both rifampicin and isoniazide resistance), Papilloma, CMV, Chlamydia, Neiserreia etc.

16. ARI develop novel process for synthesis of Quantum Dots used in photographing cellular organelles

➤ Researchers at the Agharkar Research Institute (ARI), Pune an autonomous institute under the Department of Science & Technology have developed a new process for the synthesis of quantum efficient and biocompatible *quantum dots (QDs)* used in capturing images of cellular organelles and processes within visible wavelength ranges across the electromagnetic spectrum.

Quantum dots (QDs)

- Quantum dots (QDs) are man-made nanoscale crystals that that can transport electrons.
- When UV light hits these semiconducting nanoparticles, they can emit light of various colours. These artificial semiconductor nanoparticles that have found applications in composites, solar cells and fluorescent biological labels.
- ❖ Because of the dots' small size, the amount of energy released is relatively consistent from electron to electron, yielding emissions of a single colour.
- The colour is entirely dependent upon the size of the dot, with larger dots (e.g., 5-6 nm) providing lower energy emissions (i.e., reds and oranges) and smaller dots (e.g., 2-3 nm) providing higher energy emissions (i.e., blues and violets).
- Because the light emissions are monochromatic, quantum dots have numerous existing and potential applications, including solar cells, medical imaging, and even quantum computing. But they are probably best recognized as the "Q" in QLED TVs.
- Scientists found that by creating lamellar structures fine layers, alternating between different materials – the human eye's response to the visible light was very high. This means that the material re-emitted a lot of the light than it absorbed, and very bright colours were created. They named it this process aggregation-induced emission (AIE).

SOURCE: NIH USA, and Indian Express

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All India Radio (AIR--News From 12th May to 14th May 2020)

SPECIFIC AIR NEWS NOT COVERED ABOVE

1. EC set up committee to examine Gujarat HC decision to invalidate Dholka election

The *HC invalidated* the election on the grounds on malpractice and manipulation. Following the judgement, ECI directed the Gujarat Government to initiate disciplinary action against the then Returning Officer.

Power of High Court to Invalidate an election of the candidate

- ❖ The Election Commission of India is a constitutional body responsible for administering elections in India according to the rules and regulations mentioned in the Constitution of India.
- ❖ According to Article 324 of Indian Constitution, the Election Commission of India has superintendence, direction, and control of the entire process for conduct of elections to Parliament and Legislature (state legislative assembly & state legislative council) of every State and to the offices of President and Vice-President of India.
- No election to either House of Parliament or either House of the Legislature of a State shall be called in question except by an election petition.
- Any elector or candidate can file an election petition on grounds of malpractice during the election.
- In respect of elections to the Parliament and State Legislatures, they can only be filed before the High Court and in respect of elections for the offices of President and Vice President, such petitions can only be filed before the Supreme Court.
- ❖ Election petitions are filed in the High Court of the particular state in which the election was conducted. Therefore, only the High Courts have the original jurisdiction on deciding on election petitions. Such jurisdiction shall be exercised ordinarily by the Single Judge of the High Court and Chief Justice shall from time to time assign one or more Judges for that purpose.
- The election of a particular candidate can be declared void under section 100 of the Representation of People Act, 1951.
- When the election of a candidate is declared void, any of his acts or proceedings in which that candidate has participated as a Member of Parliament or State Legislature, shall not be invalidated by reason of that order, nor shall such candidate be subjected to any liability or penalty on the ground of such participation.
- The High Court shall as soon as after the conclusion of the trial of an election petition, intimate the substance of the decision to the Election Commission of India and the Speaker of the House or Chairman of the State Legislature as the case may be.
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* An appeal shall lie to the Supreme Court on any question (whether of law and fact) from every order made by a High Court.

FOR MORE INFORMATION REFER TO D.D. BASU and LAXMIKANTH POLITY

SOURCE: ECI and ADR website

2. Russia says it will oppose any US attempts to extend arms embargo on Iran

Trump administration will have a tough time advancing any measures to impose further punishment on Iran in the *UN Security Council*, where Russia has veto power.

UN Security Council

- The Security Council has primary responsibility for the maintenance of international peace and security.
- ❖ It has 15 Members, and each Member has one vote. Under the Charter of the United Nations, all Member States are obligated to comply with Council decisions.
- Five permanent members: China, France, Russian Federation, the United Kingdom, and the United States, and ten non-permanent members elected for two-year terms by the General Assembly (with end of term year).
- More than 50 United Nations Member States have never been Members of the Security Council.
- ❖ Beyond permanency itself, the *veto power is probably the UN Charter's most significant* distinction between permanent and non-permanent members.
- China, which has veto power in the UNSC being one of its five permanent members, has been stonewalling India's efforts to become permanent member of the powerful UN body for years, pointing out lack of consensus even though the other four -- US, UK, France and Russia -- have backed New Delhi's membership.
- India, Germany, Brazil and Japan have formed the G4 bloc to press for their permanent membership demand as part of the reforms in the United Nations.

SOURCE: UN and Indian Express

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SUMMARY AND RELEVANT TERMS EXPLAINED FROM PIB AND AIR

DATED: 15-05-2020 TO 17-05-2020



Public Information Bureau (PIB-- News From 15th May to 17th May 2020)

1. Prime Minister reviews "Project Arth Ganga" : Correcting imbalances; connecting people

- Prime Minister during the first meeting of the National Ganga Council in Kanpur on December 14, 2019, had conceptualised 'Arth Ganga' to energise the economic activity along the Ganga riverbank.
- The Jal Marg Vikas Project (JMVP) aimed to develop river Ganges as a safe mode of navigation and is being implemented with the technical and financial assistance of the World Bank.
- 'Project Arth Ganga' envisages to re-engineer the JMVP by involving the local community with a focus on economic activities in and around the Ganga river in Uttar Pradesh, Bihar, Jharkhand and West Bengal.
- About 40 floating jetties and **10 pairs of Ro-Ro terminals** are being planned on River Ganga in the four states in the Gangetic belt.
- Apart from providing benefits in terms of trade and access to markets, local community's economic enhancement and passenger facilitation, the 'Arth Ganga' *project will also ensure large scale skills enhancement and public/private sector capability development.*
- "Project Arth Ganga" would to generate economic benefit of more than Rs 1000 crores over the next 5 years.

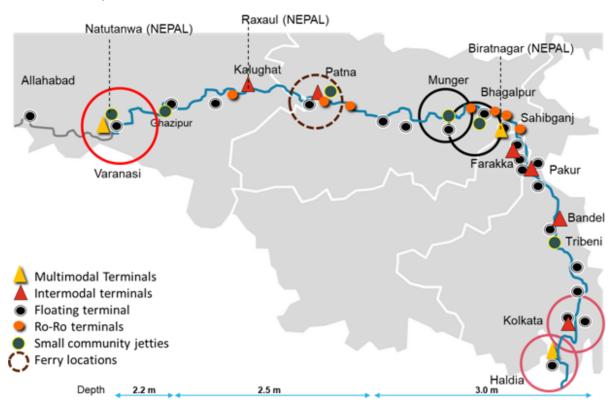
Jal Marg Vikas Project (JMVP)

- Jal Marg Vikas Project (JMVP) for capacity augmentation of navigation on National Waterway-1 (NW-1) is being implemented with the technical assistance and investment support of the World Bank.
- The Project is expected to be completed by March 2023.
- Finance Minister announced JMVP in Budget Speech in July 2014, to enable commercial navigation of at least 1500 tonnes vessels in Ganga.
- One of the major problems for a commercially viable and safe navigation on NW-1 is low depth upstream of Farakka due to low discharges from tributaries and difficult hydro morphological characteristics of river Ganga.
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- Development of three Multi-modal terminal is included in it. They are at Varanasi (UP); Haldia (West Bengal) and Sahibganj (Jharkhand).
- Among three two, Varanasi and Sahibganj has been already inaugurated.
- ❖ The project will contribute in bringing down the logistics cost in the country.
- NW1, along with the proposed Eastern Dedicated Freight Corridor, and NH2, constitute the Eastern Transport Corridor of India, connecting the National Capital Region (NCR) with the eastern and north-eastern states and will function as a link to Bangladesh, Myanmar, Thailand, Nepal and other East and South-East Asian countries through the Kolkata port and the Indo-Bangladesh Protocol Route.

SOURCE: JMVP Website, The Economic Times and The Guardian

Master Plan as presented



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2. 38 new mandis integrated with eNAM

The e-NAM is being implemented by the Small Farmers Agribusiness Consortium (SFAC), being the lead agency for the project under the aegis of Ministry of Agriculture and Farmers' Welfare, Government of India, with the support of all the e-NAM States/UTs.

APMC and e-NAM- Please refer PIB and AIR NEWS material dated 09/05/20 to 11/05/20

Small Farmers Agribusiness Consortium (SFAC)

- Small Farmers Agribusiness Consortium (SFAC) is an Autonomous Society promoted by Ministry of Agriculture, Cooperation and Farmers' Welfare, Government of India. It was registered under Societies Registration Act XXI of 1860 on 18th January 1994.
- The Society is governed by Board of Management, which is chaired, ex-officio, by Hon'ble Union Minister for Agriculture and Farmers Welfare as the President.
- The role of State SFACs is to aggressively promote agribusiness project development in their respective States. The main functions of SFAC are:
 - (i) **Promotion of development of small agribusiness** through VCA (Venture Capital Assistance) scheme;
 - (ii) *Helping formation and grow*th of Farmer Producer Organizations (FPOs) / Farmer Producer Companies (FPCs);
 - (iii) *Improving availability of working capital* and development of business activities of FPOs/FPCs through Equity Grant and Credit Guarantee Fund Scheme;
 - (iv) Implementation of National Agriculture Market (e-NAM) Electronic Trading platform.
- ❖ SFAC is one of the Central Procurement Agencies for pulses and oilseeds under Price Stabilisation Fund of Department of Consumer Affairs.

SOURCE: SFAC website and Newspapers

- National Agriculture Market (eNAM), a pan-India electronic trading portal was launched on 14th April 2016, by the Prime Minister, with the aim of networking the existing Mandis on a common online market platform as "One Nation One Market" for agricultural commodities in India.
- This digital initiative of Government of India provides a single window service for all APMC related information and services, including commodity arrivals, quality assaying, competitive bid offers and electronic payment settlement directly into farmers' accounts.
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> This online digital market aims at reducing transaction costs, bridging information asymmetries, and helping expansion of market access for farmers and other stakeholders.

Long Period Average (LPA)

- India Meteorological Department (IMD), the government's principal agency for weather forecasting and rainfall monitoring.
- IMD brands the monsoon as 'normal' or 'deficient' based on how it fares against its benchmark Long Period Average (LPA).
- LPA is the average rainfall received by the country as a whole during the south-west monsoon, for a 50-year period.
- ❖ The current LPA is 89 cm, based on the average rainfall over years 1951 and 2000. This acts as a benchmark against which the rainfall in any monsoon season is measured.
- ❖ The country is said to have received deficient rainfall if the actual rainfall falls below 90 per cent of LPA. Similarly, the country is said to have received excess rainfall if the rainfall is greater than 110 per cent of LPA.
- It is deemed 'normal' when the actual rainfall received falls between 96 and 104 per cent of LPA.
- Once in every three or four years, Indian monsoons have witnessed aberrations such as severe drought, flooding and storms owing to El Nino the abnormal warming of waters in the Pacific Ocean.
- ❖ It is important to understand that a 'normal' monsoon doesn't automatically guarantee farm prosperity or rural spending. The actual distribution of those 89 cm of rainfall over India's key growing regions and over the critical sowing months (called spatial and temporal distribution), plays a key role too.
- Like the countrywide figure, IMD maintains an independent LPA for every homogeneous region of the country, which ranges from 71.6 cm to 143.83 cm. The region-wise LPA figures are: 143.83 cm for East and Northeast India, 97.55 cm for Central India, 71.61 cm for South Peninsular India, and 61.50 for Northwest India, which put together bring the all-India figure to 88.75 cm.
- Summarily, IMD maintains five rainfall distribution categories on an all-India scale. These are:
 - Normal or Near Normal: When per cent departure of actual rainfall is +/-10% of LPA, that is, between 96-104% of LPA

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- Below normal: When departure of actual rainfall is less than 10% of LPA,
 that is 90-96% of LPA
- Above normal: When actual rainfall is 104-110% of LPA
- **Deficient:** When departure of actual rainfall is less than 90% of LPA
- Excess: When departure of actual rainfall is more than 110% of LPA

SOURCE: The Indian Express, The Business Line and IMD Website

3. NIPER-Guwahati designs innovative 3D products to fight COVID-19

- The first product is a 3D-printed hands-free object that could be used to help open or close doors etc.
- > The researchers came up with the design for the fabrication of the 3D-printed object after detailed analyses of several resources for risk measurement and on how viruses spread through bare hands.
- > The second product is a 3D-printed antimicrobial face-shield to control the spread of novel coronavirus. It was designed after a thorough *study to understand how viruses spread through oral, ophthalmic, olfactory and other body cavities.*

3D Printing

- 3D printing or additive manufacturing is a process of making three dimensional solid objects from a digital file.
- ❖ The creation of a 3D printed object is achieved using additive processes. In an additive process an *object is created by laying down successive layers* of material until the object is created. Each of these layers can be seen as a thinly sliced horizontal cross-section of the eventual object.
- ❖ 3D printing is the opposite of subtractive manufacturing which is cutting out / hollowing out a piece of metal or plastic with for instance a milling machine.
- 3D printing enables you to produce complex shapes using less material than traditional manufacturing methods.
- Companies have used 3D printers in their design process to create prototypes since the late seventies. Using 3D printers for these purposes is called rapid prototyping.
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- HP Labs are working on 5 future technology- 3D printing, immersive computing, hyper mobility, IoT and smart machines.
- Scientists are exploring the use of 3D printing for wide-ranging applications, including manufacturing, medical devices, fashion and even food.
- * Russia's nuclear energy corporation, Rosatom, is in advanced stages of implementing a plan to develop advanced metal additive manufacturing technology by producing 3D printed parts for the country's nuclear industry.

To Know more About Additive Manufacturing please refer PIB & AIR News material dated: 12/05/20 to 14/05/20

SOURCE: Indian Express and 3D technology Website

4. CCI invites public comments regarding examination of non-compete restrictions under regulation of combinations

- The Competition Commission of India (CCI) has been looking at non-compete restrictions stipulated in mergers and acquisitions while reviewing combinations.
- Notifying parties are required to furnish information on non-compete restrictions for the purpose of its examination.
- The CCI has issued a Guidance Note explaining the circumstances under which a non-compete restriction would be regarded as 'ancillary' or 'not ancillary'.

Competition Commission of India (CCI)

- The Competition Act, 2002, as amended by the Competition (Amendment) Act, 2007, follows the philosophy of modern competition laws.
- The Act prohibits anti-competitive agreements, abuse of dominant position by enterprises and regulates combinations (acquisition, acquiring of control and M&A), which causes or likely to cause an appreciable adverse effect on competition within India.
- The Competition Commission of India (CCI) was established under the Competition Act, 2002 for the administration, implementation and enforcement of the Act, and was duly constituted in March 2009.
- **CCI** consists of a Chairperson and 6 Members appointed by the Central Government.
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- The Commission is also required to give opinion on competition issues on a reference received from a statutory authority established under any law and to undertake competition advocacy, create public awareness and impart training on competition issues.
- ***** The following are the objectives of the Commission.
 - To prevent practices having adverse effect on competition.
 - To promote and sustain competition in markets.
 - To protect the interests of consumers and
 - To ensure freedom of trade
- On July 1, the Competition Commission of India (CCI) ordered a probe into Google's market practices that it misused its dominant position in the market to ensure that Android phones came pre-installed with Google apps.

SOURCE: CCI Website and Indian Express

5. Raksha Mantri approves Rs 400 crore Defence Testing Infrastructure Scheme

- Approved the launch of *Defence Testing Infrastructure Scheme (DTIS)* with an outlay of Rs 400 crore for creating state of the art testing infrastructure for this sector.
- The Scheme would run for the duration of five years and envisages to setup six to eight new test facilities in partnership with private industry.
- > This will facilitate indigenous defence production, consequently, reduce imports of military equipment and help make the country self-reliant.
- The projects under the Scheme will be provided with up to 75 percent government funding in the form of 'Grant-in-Aid'.

Grant-in-Aid (Don't confuse with Demand for Grants)

- 'Grants-in-aid' is typically a British term and is used to indicate resources assigned by the Central Government to a local one. Such a grant may be unconditional or conditional, typically the latter.
- ❖ Aid, subventions, and subsidy are terms indicative of different forms of grants-in- aid according to their principal features. Their use, however, is not uniform.
- ❖ A federal grant is financial aid awarded to fund a specific project or program. Recipients include state, local, and municipal governments, as well as individuals.
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- ❖ Federal grants in aid are funded with money from income tax revenues. These grants are not loans; therefore, no repayment is required, but funds must be spent according to the federal government's guidelines for that particular grant.
- Besides the taxes devolved to states, another source of transfers from the centre to states is grants-in-aid. As per the recommendations of the 14th Finance Commission, grants-in-aid constitute 12% of the central transfers to states.
- The 14th Finance Commission had recommended grants to states for three purposes: (i) disaster relief, (ii) local bodies, and (iii) revenue deficit.

SOURCE: Sodhganga, Investopedia, 14th Finance Commission and Newspapers

Demand for Grants

- Demand for Grants is the form in which estimates of expenditure from the Consolidated Fund, included in the annual financial statement and required to be voted upon in the Lok Sabha, are submitted in pursuance of Article 113 of the Constitution.
- The demand for grants includes provisions with respect to revenue expenditure, capital expenditure, grants to State and Union Territory governments together with loans and advances. Generally, one demand for grant is presented in respect of each ministry or department. However, for large ministries and departments, more than one demand is presented.

SOURCE: Economic Times

The remaining 25 per cent of the project cost will have to be borne by the Special Purpose Vehicle (SPV) whose constituents will be Indian private entities and State Governments.

Special Purpose Vehicle (SPV)

- The word vehicle can be interchanged with market entity. In the US, the term used is special purpose entity (SPE). The name SPV is given to an entity which is formed for a single, well-defined and narrow purpose.
- An SPV can be formed for any lawful purpose.
- SPVs are mostly formed to raise funds from the market. Technically, an SPV is a company.
- It has to follow the rules of formation of a company laid down in the Companies Act. Like a company, the SPV is an artificial person. It has all the attributes of a legal person. It is independent of members subscribing to the shares of the SPV.
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- The SPV has an existence of its own in the eyes of law. It can sue and be sued in its name. The SPV has to adhere to all the regulations laid down in the Companies Act.
 Members of an SPV are mostly the companies and individuals sponsoring the entity.
- An SPV can also be a partnership firm. This, however, is unusual.
- The company, as distinguished from an SPV, may be called a general purpose vehicle.
- A company may do many things which are mentioned in the memorandum of association (MoA) or permitted by the Companies Act.
- An SPV may also do the same, but its scope of operation is limited and focused. If it is not so, the SPV had better be called a company.
- **The MoA is quite narrow in the case of an SPV.** This is primarily to provide comfort to lenders who are concerned about their investment.
- ❖ The biggest advantage is that it helps in separating the risk and freeing up the capital. As a result, the SPV and the sponsoring company are protected against risks like insolvency, which may arise during the course of operation.
- Simply, A Special Purpose Vehicle (SPV) is a separate legal entity created by an organization. The SPV is a distinct company with its own assets and liabilities, as well as its own legal status. Usually, they are created for a specific objective, often which is to isolate financial risk. As it is a separate legal entity, if the parent company goes bankrupt, the special purpose vehicle can carry its obligations.

SOURCE: Financial Express and Centre for Financial Studies website

- > The SPVs under the Scheme will be registered under Companies Act 2013 and shall also operate and maintain all assets under the Scheme, in a self-sustainable manner by collecting user charges.
- While majority of test facilities are expected to come up in the two Defence Industrial Corridors (DICs), the Scheme is not limited to setting up Test Facilities in the DICs only.

Defence Industrial Corridors

- A defence corridor refers to a route or a path along which domestic productions of defence equipment by public sector, private sector and MSMEs are lined up to enhance the operational capability of the defence forces.
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- **The government has now opened up private investment in defence** production including liberalising foreign direct investment.
- Apart from improving the connectivity of the defence forces, the move will encourage domestic production of defence equipments and benefit all small and medium manufacturers along the corridor.
- The locations of these corridors are strategically decided by the Defence Ministry while taking into account a natural ecosystem that could be utilised for enhancing the existing defence network.
- The government has envisaged building corridors in Uttar Pradesh and Tamil Nadu.

SOURCE: Money Control and Economic Times

Integrated Bridge System (IBS) and Integrated Platform Management System (IPMS)

- A series of interconnected and closely grouped screens and modules allowing centralised access to navigational, propulsion, control and monitoring information. The aim of IBS is to increase safe and efficient ship management by the qualified personnel.
- It is a combination of systems, which are interconnected to allow a centralized monitoring of various navigational tools. IBS allows acquiring and control of sensor information of a number of operations such as passage execution, communication, machinery control, and safety and security.

SOURCE: Maritime Institute Website

6. Raksha Mantri commissions Indian Coast Guard Ship 'Sachet' and two interceptor boats;

- Commissioned Indian Coast Guard Ship (ICGS) Sachet and two interceptor boats (IBs) C-450 and C-451 in Goa.
- > The ICGS Sachet, the first in the series of five offshore patrol vessels (OPVs) has been designed & built indigenously by Goa Shipyard Limited (GSL) and is fitted with state-of-theart navigation and communication equipment.

7. Forecast for the 2020 Southwest Monsoon Onset over Kerala

- This year, the onset of southwest monsoon over Kerala is likely to be slightly delayed as compared to normal date of onset of 1st June.
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- The 6 Predictors used in the models are;
 - i) Minimum Temperatures over North-west India,
 - ii) Pre monsoon rainfall peak over south Peninsula,
 - iii) Outgoing Long wave Radiation (OLR) over south China Sea,
 - (iv) Lower tropospheric zonal wind over southeast Indian Ocean,
 - (v) upper tropospheric zonal wind over the east equatorial Indian Ocean, and
 - (vi) Outgoing Long wave Radiation (OLR)over the south-west Pacific region.

8. \$1 Billion from World Bank to Protect India's Poorest from COVID-19

The Government of India and the World Bank signed a \$750 million of \$1 billion proposed for Accelerating India's COVID-19 Social Protection Response Programme to support India's efforts at providing social assistance to the poor and vulnerable households, severely impacted by the COVID-19 pandemic.

World Bank

- The World Bank is an international development organization owned by 187 countries. Its role is to reduce poverty by lending money to the governments of its poorer members to improve their economies and to improve the standard of living of their people.
- The Bank is also one of the world's largest research centers in development. It has specialized departments that use this knowledge to advise countries in areas like health, education, nutrition, finance, justice, law and the environment.
- ❖ Another part of the Bank, the *World Bank Institute*, offers training to government and other officials in the world through local research and teaching institutions.
- The World Bank Group consists of five organizations:
- The International Bank for Reconstruction and Development (IBRD)
 - The International Bank for Reconstruction and Development (IBRD) lends to governments of middle-income and creditworthy low-income countries.
- The International Development Association (IDA)
 - The International Development Association (IDA) provides interest-free loans called credits and grants to governments of the poorest countries.
 - Together, IBRD and IDA make up the World Bank.
- The International Finance Corporation (IFC)
 - The International Finance Corporation (IFC) is the largest global development institution focused exclusively on the private sector. It helps developing countries
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achieve sustainable growth by financing investment, mobilizing capital in international financial markets, and providing advisory services to businesses and governments.

• The Multilateral Investment Guarantee Agency (MIGA)

The Multilateral Investment Guarantee Agency (MIGA) was created in 1988 to promote foreign direct investment into developing countries to support economic growth, reduce poverty, and improve people's lives. MIGA fulfills this mandate by offering political risk insurance (guarantees) to investors and lenders.

• The International Centre for Settlement of Investment Disputes (ICSID)

The International Centre for Settlement of Investment Disputes (ICSID) provides international facilities for conciliation and arbitration of investment disputes.



- The Bank is run like a giant cooperative, where its members are shareholders and is operated for the benefit of those using its services. The number of shares a country has is based roughly on the size of its economy. The United States is the largest single shareholder, followed by Japan, Germany, the United Kingdom, and France. The rest of the shares are divided among the other member countries.
- ❖ The Bank lends money to middle-income countries at interest rates lower than the rates on loans from commercial banks. In addition, the Bank lends money at no interest to the poorest developing countries, those that often cannot find other sources of loans. Countries that borrow from the Bank also have a much longer period to repay

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their loans than commercial banks allow and don't have to start repaying for several years.

SOURCE: World Bank Website

- ➢ Of the \$1 billion commitment, an immediate allocation of \$750 million for fiscal year 2020 of which \$550 million will be financed by a credit from the International Development Association (IDA) the World Bank's concessionary lending arm and \$200 million will be a loan from the International Bank for Reconstruction and Development (IBRD).
- The remaining **\$250 million** will be made available after June 30, 2020 and would be on standard IBRD terms.
- The programme will be implemented by the Ministry of Finance, Government of India.
- 9. Finance Minister announces measures to strengthen Agriculture Infrastructure Logistics, Capacity Building, Governance and Administrative Reforms for Agriculture, Fisheries and Food Processing Sectors
 - Prime minister outlined five pillars of Atmanirbhar Bharat Economy, Infrastructure, System, Vibrant Demography and Demand.
 - Significant Agriculture-related measures were also announced to support farmers, Rs 30,000 crore as Additional Emergency Working Capital facility through NABARD to enable RRBs and Cooperative Banks extending farm loans.

Cooperative Banks

- Co-operative banks operate in both urban and non-urban areas. All banks registered under the Cooperative Societies Act, 1912 are considered co-operative banks. These are banks run by an elected managing committee with provisions of members' rights and a set of "communally developed and approved bylaws and amendments."
- Unlike commercial banks, who are driven by profit, co-operative banks work on a "no profit, no loss" basis.
- These are regulated by the Reserve Bank of India under the Banking Regulation Act, 1949 and Banking Laws (Application to Co-operative Societies) Act, 1965.
- In 1963, Varde Committee recommended that such banks should be organised at all Urban Centres with a population of 1 lakh or more and not by any single community or caste.
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- The committee introduced the concept of minimum capital requirement and the criteria of population for defining the urban centre where UCBs were incorporated.
- About 79 percent of these are located in five states, Andhra Pradesh, Gujarat, Karnataka, Maharashtra and Tamil Nadu.
- Unlike commercial banks, UCBs are only partly regulated by the RBI.
- While their banking operations are regulated by the RBI, which lays down their capital adequacy, risk control and lending norms, their management and resolution in the case of distress is regulated by the Registrar of Co-operative Societies either under the State or Central government.
- In the event UCBs fail, deposits with them are covered by the Deposit Insurance and Credit Guarantee Corporation of India up to a sum of ₹1 lakh per depositor, the same as for a commercial bank.

SOURCE: RBI, Arthapedia, The Business line and Livemint

Regional Rural Banks

- Regional Rural Banks (RRBs) are financial institutions which ensure adequate credit for agriculture and other rural sectors.
- Regional Rural Banks were set up on the basis of the recommendations of the Narasimham Working Group (1975), and after the legislations of the Regional Rural Banks Act, 1976.
- ❖ The first Regional Rural Bank "Prathama Grameen Bank" was set up on October 2, 1975. It was sponsored by Syndicate Bank.
- The equity of a regional rural bank is held by the Central Government, concerned State Government and the Sponsor Bank in the proportion of 50:15:35.
- The main objectives of RRB's are to provide credit and other facilities, especially to the small and marginal farmers, agricultural labourers artisans and small entrepreneurs in rural areas with the objective of bridging the credit gap in rural areas, checking the outflow of rural deposits to urban areas and reduce regional imbalances and increase rural employment generation.
- The RRB's have also been brought under the ambit of priority sector lending on par with the commercial banks.

SOURCE: RBI, Arthapedia, Livemint and The Business Line

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- > Rs 10,000 crore scheme for Formalisation of Micro Food Enterprises (MFE) The focus will be on women and SC/ST owned units and those in Aspirational districts and a Cluster based approach (e.g. Mango in UP, Tomato in Karnataka, Chilli in Andhra Pradesh, Orange in Maharashtra etc.) will be followed.
- "Operation Greens" run by Ministry of Food Processing Industries (MOFPI) will be extended from tomatoes, onion and potatoes to ALL fruit and vegetables.
- National Animal Disease Control Programme for Foot and Mouth Disease (FMD) and Brucellosis launched with total outlay of Rs. 13,343 crores to ensure 100% vaccination of cattle, buffalo, sheep, goat and pig population (total 53 crore animals) for Foot and Mouth Disease (FMD) and for brucellosis.
- > The Government will launch the PMMSY (*Pradhan Mantri Matsya Sampada Yojana*) for integrated, sustainable, inclusive development of marine and inland fisheries.
- An Animal Husbandry Infrastructure Development Fund of Rs. 15,000 crores will be set up, with an aim to support private investment in Dairy Processing, value addition and cattle feed infrastructure. Incentives will be given for establishing plants for export of niche products.

10. Project Signing: World Bank Project Agreement Signed to Reduce Flooding and Improve Irrigation in West Bengal

- The Government of India, the Government of West Bengal and the World Bank signed a loan agreement for a \$145 million project to improve irrigation services and flood management in the Damodar Valley Command Area (DVCA) in West Bengal.
- The \$145 million loan from the International Bank for Reconstruction and Development (IBRD).

11. Central Public Sector Enterprises (32 Maharatnas and Navratnas) due payments to MSMEs

The Department of Expenditure, Ministry of Finance, has been monitoring, on a monthly basis, the performance of the 32 top Maharatna and Navratna Central Public Sector Enterprises (CPSEs)

Maharatna

In May 1990, the Bureau of Public Enterprises (BPE) was made a full-fledged Department known as the Department of Public Enterprises (DPE). Currently; DPE is the part of the Ministry of Heavy Industries & Public Enterprises.

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- ❖ The Department of Public Enterprises is the nodal department for all the Central Public Sector Enterprises (CPSEs). DPE; makes policies and guidelines for the performance evaluation and improvement of the PSUs/ CPSEs.
- The CPSEs meeting the following criteria are eligible to be considered for grant of Maharatna status.
- Having Navratna status
- Listed on Indian stock exchange with minimum prescribed public shareholding under SEBI regulations
- An average annual turnover of more than Rs. 25,000 crores during the last 3 years
- An average annual net worth of more than Rs. 15,000 crores during the last 3 years
- An average annual net profit after tax of more than Rs. 5,000 crores during the last 3 years
- Should have significant global presence/international operations.
- Currenty there are 10 Maharatna, 14 Navratna and 73 Miniratna CPSEs.

SOURCE: Newspapers

Special efforts must be made to clear dues of MSMEs and resolve cases on the SAMADHAN portal of Department of MSME.

SAMADHAN portal

- The Union government has launched a portal to help workers and employers raise industrial disputes online. The portal, known as Samadhan (Software Application for Monitoring and Disposal, Handling of Industrial Disputes), has been launched on a pilot basis for workers belonging to five states Chhattisgarh, Delhi, Karnataka, Rajasthan, and Odisha.
- However, this will only aid industries belonging in the central sphere, essentially public sector companies, banks, insurance, major ports, mines, Food Corporation of India, among others.
- The Ministry of Micro, Small & Medium Enterprises (MSME) has launched MSME Delayed Payment Portal — MSME Samadhaan for empowering micro and small entrepreneurs across the country to directly register their cases relating to delayed payments by Central Ministries/Departments/CPSEs/State Governments.

SOURCE: Min of MSME and Business Standard

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12. Government of India & AIIB sign agreement for

The Government of India, the Government of West Bengal and the Asian Infrastructure Investment Bank (AIIB) signed a loan agreement for a US\$145 million project to improve irrigation services and flood management in the Damodar Valley Command Area (DVCA) in West Bengal.

<u>The Asian Infrastructure Investment Bank (AIIB)- Please refer PIB & AIR news material dated</u> 09/05/20 to 11/05/20

The total value of the project is \$413.8 million, co-financed between the AIIB (\$145 million), IBRD (\$145 million) and the Government of West Bengal (\$123.8 million).

13. DST INSPIRE Faculty from Bhopal develops lightweight carbon foam that can replace lead batteries

- It has the potential to replace lead grid in lead-acid batteries.
- ➤ It can also be useful for heat sinks in power electronics, electromagnetic interference shielding in aerospace, hydrogen storage and electrode for lead-acid batteries and water purification systems.
- The present grid-scale energy-storage sector is dominated by lithium-ion batteries, because of their higher energy density & specific power and long cycle life.
- ➤ However, there are some serious concerns regarding Li-ion batteries, such as safety risk, limited resource supply, high cost, and lack of recycling infrastructure.
- > This necessitates the development of an alternative battery system with lower environmental concerns, economic and higher energy density.
- As a result, lead-acid batteries are still one of the most reliable, economical, and environmentally friendly options.
- However, electrodes in the lead-acid batteries suffer from the problem of heavyweight, corrosion, poor thermal stability, and diffusion of electrolytes in one dimension, which ultimately affects the output power.
- The carbon foam is highly resistive to corrosion, has good electrical and thermal conductivity with high surface area, and have recently attracted a lot of attention owing to their potential applications in various field.
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- > The carbon foam developed under the INSPIRE fellowship will also be cost-effective for the removal of arsenic, oil, and other metals from contaminated water.
- > These carbon foams are non-toxic, easy to fabricate, affordable, and insoluble in water.
- The raw material for the fabrication of carbon foam is easily available everywhere, and there is no requirement of any costly equipment for the fabrication of carbon foam and filtration. Such materials can be safely used in remote areas where power supply is scarce.

Carbon foam

- Carbon foams are non-toxic, highly porous, light materials which demonstrate a wide range of properties.
- That fact allows carbon foams to be applied in many areas of life, ranging from electronics industry, through machinery, car and construction industry, to environmental protection.
- ❖ The properties of carbon foams are closely connected with their density, and its value is especially influenced by their internal structure, i.e. mainly size and number of pores, pore wall thickness and structural order of solid matrix. That is why it is possible to design the properties of carbon foams by controlling their growth.
- The main control factors are selecting the suitable raw material, the process parameters (temperature and pressure) and the suitable production method. Additionally, the properties of carbon foams may be modified by doping them with carbon or mineral fillers.
- The second method is the enrichment of carbon matrix with heteroatoms, mainly of boron and nitrogen.
- Under the oxygen-deprived conditions, they can be heated up to 3000°C without melting and softening.

SOURCE: Research Gate publication

14. JNCASR scientists develop injectable Silk Fibroin-based hydrogel for sustained Insulin delivery in diabetic patients

Scientists at Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), an autonomous research institute under the Department of Science and Technology, have recently developed an injectable Silk fibroin-based hydrogel for sustained insulin delivery in diabetic patients.

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Silk fibroin-based hydrogel

- Researchers have investigated fibroin as one of *the promising resources of biotechnology and biomedical materials due to its other unique properties* including excellent biocompatibility, favourable oxygen permeability, and outstanding biodegradability, and the degradation product can be readily absorbed by the body with minimal inflammatory reaction.
- * Silk hydrogels have been thoroughly studied for potential biotechnological applications due to their mechanical properties, biocompatibility, controllable degradation rates, and self-assembly into β-sheet networks.
- Hydrogels made from silk proteins have shown a potential in overcoming limitations of hydrogels prepared from conventional polymers.
- Recent applications of SF-based materials for small molecule drug delivery, biological drug delivery, gene therapy, wound healing, and bone regeneration are reviewed and perspectives on future development of these favourable materials are also explored by scientists.

SOURCE: Research papers

15. Ministry of Tourism brings centuries old crafts of Mysuru through webinar titled 'Mysuru: Craft Caravan of Karnataka' under "Dekho Apna Desh" series

- It offered an immersive tour of *crafts forms namely Channapatna Toys, Rosewood inlay craft that have been thriving for centuries around the city of Mysuru.*
- > The National e-Governance Division (NeGD) created by the Ministry of Electronics & Information Technology (MeitY) has been playing a pivotal role in supporting the Ministry in conducting of the DekhoApna Desh Webinars by providing technical assistance.

16. Shri Arjun Munda launches 'Goal' programme of M/o Tribal Affairs for Digital Skilling of Tribal Youth across India in partnership with Facebook

- Launched the "GOAL (Going Online as Leaders)" programme of the Ministry of Tribal Affairs (MoTA) in partnership with Facebook.
- The GOAL programme is **designed to provide mentorship to tribal youth through digital mode.**
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> The digitally enabled program envisages to act as a catalyst to explore hidden talents of the tribal youth, which will help in their personal development as well as **contribute to all-round upliftment of their society.**

17. Cabinet Secretary chairs NCMC meeting to review preparedness for the impending Cyclone in the Bay of Bengal

A meeting of the **National Crisis Management Committee** (NCMC), chaired by the Cabinet **Secretary, Shri Rajiv Gauba**, was held to review the preparations for the impending cyclone over the Bay of Bengal.

National Crisis Management Committee (NCMC)

- For effective implementation of relief measures in the wake of a natural calamity, the Cabinet may set up a committee (headed by cabinet secretary).
- On the constitution of such a committee of the Cabinet, the Agriculture Secretary shall provide all necessary information to and seek directions if any, of the Cabinet Committee in all matters concerning relief in the wake of natural calamity and take steps for effective implementation of its directions.
- ❖ In the absence of such a Cabinet Committee, all matter relating to relief shall be reported to the Cabinet Secretary.
- ❖ A National Crisis Management Committee (NCMC) has been constituted in the Cabinet Secretariat.

SOURCE: Disaster management Website

18. Effective Implementation of RERA can Restore Trust Between Buyer and Seller: Hardeep S Puri

- > The core objective of this transformative legislation (RERA) is to ensure regulation and promotion of real estate sector in an efficient and transparent manner and to protect the interest of the home buyers.
- Affordable rental housing for migrant labourers and urban poor such as the Affordable Rental Housing Complex (ARHC) scheme, where Government funded houses in cities will be converted into Affordable Rental Housing Complex under PPP model.
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The Credit Link Subsidy Scheme (CLSS) under Pradhan Mantri Awas Yojana - Urban (PMAY-U) for middle income group has been extended to 31st March 2021 which is likely to benefit 2.5 lakh middle-class people.

Credit Link Subsidy Scheme (CLSS)

- It is a central Sector Scheme
- The CLSS is the only scheme under the PMAY (Urban) which is directly implemented by the Centre.
- Through this scheme, the *Centre provides direct subsidy on home loans taken by urban buyers* of affordable homes, with incomes below specific thresholds. The benefits are targeted at individuals from economically weaker sections (EWS), the lower income group (LIG) and the middle-income group (MIG).
- The subsidy is calculated as the present value of interest savings on home loans over the entire tenure of the loan, capped at a maximum of ₹2.35 lakh.
- This subsidy is deducted from the principal dues of the borrower, reducing the amount of EMIs payable.
- Under the Middle-Income Group (MIG), there are two sets of home buyer beneficiaries. The first set is MIG-I, which covers those homebuyers with an annual income of Rs 6 lakh to Rs 12 lakh per annum and the second one is MIG II, which covers home buyer who fall in the income group of Rs 12 lakh to Rs 18 lakh per annum.
- Earlier, the government had introduced CLSS in June 2015 for home loans to home buyers from the economically weaker section (EWS), Low Income Group (LIG), and was extended to the MIG since January 2017.

SOURCE: PMAY(U) Website, The Business Line and Economic Times

19. ARCI scientists develop next-generation biodegradable metal implants

Scientists at the International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) and Sree Chitra Tirunal Institute of Medical Sciences, Thiruvananthapuram both autonomous institutes under the Department of Science & Technology (DST) have jointly developed new generation Iron-Manganese based alloys for biodegradable metal implants for use in humans.

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- Biodegradable materials (Fe, Mg, Zn, and polymer), which can participate in the healing process and then degrade gradually by maintaining the mechanical integrity without leaving any implant residues in the human body are better alternatives to currently used metallic implants which remain permanently in the human body and can cause long-term side effects like systemic toxicity, chronic inflammation, and thrombosis.
- > It is a promising biodegradable metallic implant which exhibits single austenitic phase (non-magnetic form of iron) with MRI compatibility.
- > During the degradation process, calcium phosphate deposits on the implant due to local alkalization and saturation of calcium and phosphate, *allow cells to adhere onto the surface to form tissues.*

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All India Radio (AIR--News From 15th May to 17th May 2020)

SPECIFIC AIR NEWS NOT COVERED ABOVE

1. Cyclonic Storm 'AMPHAN' over Southeast Bay of Bengal, neighbourhood intensifies into Severe Cyclonic Storm

➢ It is very likely to move northwards slowly during next 24 hours and then recurve north-northeast wards. It will move fast across northwest Bay of Bengal and cross West Bengal Bangladesh coasts between Sagar Islands (West Bengal) and Hatiya Islands (Bangladesh) during afternoon or evening of 20th May 2020 as a Very Severe Cyclonic Storm.

Cyclonic Storm- Please refer to PIB & AIR News material dated-12/05/20 to 14/05/20

2. National Rainfed Area Authority CEO welcomes Central Government's move to allow private APMCs

This will *promote competition between private and Government APMCs,* fetch better prices to farmers and help double their income.

National Rainfed Area Authority (NRAA)

- NRAA was established as per decision of Cabinet on 3rd November 2006 as an expert body of Ministry of Agriculture to provide the much-needed knowledge inputs regarding systematic up-gradation and management of country's dry land and rainfed agriculture.
- More than 60 per cent of the country's cultivable lands are rain-fed and account for around 40 per cent of total food production. The authority has to find ways to raise productivity in these areas through water harvesting and conservation.
- The Authority's mandate is wider than mere water conservation and covers all aspects of sustainable and holistic development of rainfed areas, including appropriate farming and livelihood system approaches. Issues pertaining to landless and marginal farmers, who constitute the large majority of inhabitants of rainfed areas, are to be addressed by the Authority.

SOURCE: NRAA Website and The Business Line

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SUMMARY AND RELEVANT TERMS EXPLAINED FROM PIB AND AIR

DATED: 18-05-2020 TO 20-05-2020



Public Information Bureau (PIB-- News From 18th May to 20th May 2020)

- 1. Government implements Shekatkar Committee recommendations related to creating border infrastructure
 - ➤ Government has accepted and implemented three important recommendations of Committee of Experts (CoE) under the Chairmanship of Lt General D B Shekatkar (Retd) relating to border Infrastructure.
 - ➤ These were *related to speeding up road construction, leading* to socio economic development in the border areas.
 - On the matter related to creating border infrastructure, the Government has implemented recommendation of CoE to outsource road construction work beyond optimal capacity of Border Roads Organisation (BRO).

<u>Border Roads Organisation (BRO)</u>- FOR DETAILS ON IT PLEASE REFER TO OUR TELEGRAM CHANNEL UPDATE PIB&AIR NEWS DATED 06/05/2020 to 08/05/2020

- It has been made mandatory to adopt Engineering Procurement Contract (EPC) mode for execution of all works costing more than Rs 100 crore.
- ➤ New Technology like blasting technology for precision blasting, use of *Geo-Textiles* for soil stabilisation, cementitious base for pavements, plastic coated aggregates for surfacing, *is* also being used to enhance the pace of construction.

<u>Geo-Textiles</u>- FOR DETAILS ON IT PLEASE REFER TO OUR TELEGRAM CHANNEL UPDATE PIB&AIR NEWS DATED 06/05/2020 to 08/05/2020

- 2. Auction for Sale (Re-Issue) of '5.09% GS 2022', Auction for Sale (Re-Issue) of '5.79% GS 2030', Auction for Sale (Re-issue) of 'Gol Floating Rate Bond 2031', and Auction for Sale (Re-Issue) of '7.19% GS 2060'
 - ➤ Both competitive and non-competitive bids for the auction should be submitted in electronic format on the *Reserve Bank of India Core Banking Solution (E-Kuber) system*.

(E-Kuber) system

• e-Kuber is the Core Banking Solution of Reserve Bank of India.

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- **E-Kuber provides the provision of a single current account for each bank across the country,** with decentralised access to this account from anywhere-anytime using portal-based services in a safe manner.
- e-Kuber enables ease of operations. The system also benefits state /central Governments as users.
- Some of the facilities offered include the provision of portal based access which allows
 Government departments to access on anywhere-anytime basis and view their balances
 – of all types including the Ways and Means Advances, drawings, funds positions and
 the like all in a consolidated manner so as to help them in better funds management.
- The capability of consolidating revenue collections by banks through the e-Kuber offers the potential for better flexibility for the Government in managing its finances apart from moving over towards higher levels of electronic banking.
- ❖ The e-kuber system can be accessed either through INFINET or Internet.
- ❖ The INFINET is a Closed User Group Network for the exclusive use of member banks and financial institutions and is the communication backbone for the National Payments System, which caters mainly to inter-bank applications like Real Time Gross Settlement (RTGS), Delivery Vs Payment, Government Transactions, Automatic Clearing House, etc.
- ❖ The e-kuber system, *implemented in 2012*, is reported to be one of the foremost central bank-oriented Core Banking Systems in the world.
- ❖ Auction of Government securities is done through e-kuber system. Sovereign Gold Bonds are available for subscription at the branches of scheduled commercial banks and designated post offices through RBI's e-kuber system.
- Goods and Service Tax (GST) settlements are also proposed to be done through ekuber.
- On 7 April 2016, RBI launched a platform to *enable trading in the priority sector lending* certificates (PSLC) through its Core Banking Solution (CBS) portal (e-Kuber).
- **❖** Technology partner for RBI for launching e-kuber is Polaris Ltd.

SOURCE: Arthepedia and Newspapers

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Ways and Means Advances

- * WMA is a mechanism used by the RBI to fund States to help them to tide over temporary mismatches in cash flows. Borrowings through WMA are to be repaid within three months and usually offered at the repo rate.
- There are two types of WMAs normal Ways and Means Advances; and Special Drawing Facilities against government securities held by States as collateral.
- Any amount drawn by a State in excess of the normal WMA is an overdraft. There is a State-wise limit for the funds that can be availed via WMA. These limits depend on many factors, including total expenditure, revenue deficit and fiscal position of the State.
- WMA limits are revised periodically, and the previous utilisation rates are considered while determining revised limits.
- **States with higher WMA limits include** Uttar Pradesh (₹3,550 crore), Maharashtra (₹3,385 crore) and Tamil Nadu (₹2,475 crore). **All India it is ₹32,225 crore**.
- ❖ The rate of interest applicable for normal WMA funding from RBI is the repo rate (now 4.4 per cent), while overdrafts are given at repo plus 2 per cent respectively. The interest levied for special WMAs could be lower than the repo rate due to the backing of government securities.

SOURCE: The Business Line and Indian Express

3. Ministry of Tourism organises 20th webinar titled 'Uttarakhand Simply Heaven' under "Dekho Apna Desh" webinar series

- The 20th session of the Dekho Apna Desh webinar series on 16th May 2020 titled "Uttarakhand Simply Heaven" highlighted the potential of tourism in *Uttarakhand's two regions namely Kedar Khand (Garhwal Region) and Manu Khand (Kumaon Region)* and touched upon.
- The popular destination like Gangotri, Yamunotri, Badrinath, Kedarnath, Hemkhund Sahib and the **UNESCO World Heritage Site of Valley of Flowers.**
- Besides adventure activities, the session also presented options for experiencing the best of nature by paying a visit to the oldest national park of the country- Jim Corbett National Park, Rajaji Tiger Reserve and UNESCO site of Nanda Devi National Park-exploring the rich diversity of flora and fauna of Himalayan Region.
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- Innumerable options for trekking available such as Chopta and Pindari Glacier.
- The Dekho Apna Desh Webinar Series sessions are conducted with active support of National e-Governance Division (NeGD) of Ministry of Electronics & Information Technology (MeitY).

UNESCO World Heritage Site

- The idea of creating an international movement for protecting heritage emerged after World War I.
- The 1972 Convention concerning the Protection of the World Cultural and Natural Heritage developed from the merging of two separate movements: the first focusing on the preservation of cultural sites, and the other dealing with the conservation of nature.
- The most significant feature of the 1972 World Heritage Convention is that it links together in a single document the concepts of nature conservation and the preservation of cultural properties.
- **The Convention recognizes the way** in which people interact with nature, and the fundamental need to preserve the balance between the two.
- These sites are selected by UNESCO
- ❖ Sources of income include the World Heritage Fund, which receives most of its income from compulsory contributions from countries (States Parties) and from voluntary contributions. Other sources of income include profits derived from sales of World Heritage publications, or funds-in-trust that are donated by countries for specific purposes.

There are total 38 sites in India enlisted on the World Heritage List. These are

- 1. Cultural Sites: Total 30 and the latest being Victorian Gothic and Art Deco Ensembles of Mumbai (2018)
- **2. Natural Sites:** Total 07 and the latest being Great Himalayan National Park Conservation Area (2014)
- 3. Mixed Site: Total 01, that is Khangchendzonga National Park (2016)
 - As of July 2019, a total of 1,121 World Heritage Sites (869 cultural, 213 natural, and 39 mixed properties) exist across 167 countries. China and Italy, both with 55 sites, have
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the most of any country, followed by Spain (48), Germany (46), France (45), India (38), and Mexico (35).

SOURCE: UNESCO Website and Newspapers

4. Cyclonic Storm 'AMPHAN' over West central Bay of Bengal: Cyclone Warning for West Bengal and north Odisha coasts: Orange Message

The system is now being continuously tracked by the **Doppler Weather Radar (DWR)** at Vishakhapatnam (Andhra Pradesh), Paradip (Odisha) and Gopalpur (Odisha).

Doppler Weather Radar (DWR)

- ❖ Doppler Radars compares the frequency of transmitted and received signals and compute the difference in frequency. The (positive or negative) Change in frequency is directly proportional to the velocity of the target towards or away from the radar. Thus, target velocity is calculated from the change in frequency observed by the Doppler radars.
- Most conventional (non-Doppler) radars are used to detect severe thunderstorms.
- The Doppler Weather Radar (DWR) provides advance information, enhancing the lead-time so essential for saving lives and property, in the event of natural disaster associated with severe weather.
- **Though the conventional radars are able** to track and predict cyclones, the DWR provides detailed information on storm's internal wind flow and structure.
- **The polarimetric capability of the Radar** will significantly improve the accuracy of rainfall estimation leading to accurate and timely flash flood warnings.
- In India, a few coastal areas are equipped with DWR to monitor the movement of tropical cyclones. Recently, the Indian Space Research Organization developed a DWR indigenously known as MEGHA-2700, which was installed at Sriharikota (13.66 ° N, 80.23 ° E).
- India's first dedicated Indigenously developed Polarimetric Doppler Weather Radar (DWR) installed at Cherrapunjee in 2016.
- The DWR, being the first S-band (operating at 2.7 2.9 GHz) dual polarimetric Doppler Weather Radar can detect Weather phenomenon upto 500 km. S band radars operate on a wavelength of 8-15 cm and a frequency of 2-4 GHz.
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❖ Doppler Weather Radar Products can be used for the following applications:

- Weather surveillance
- Severe weather monitoring
- Hurricane, typhoon, and cyclone tracking
- Hail detection
- Hydrometeorological applications, such as flood forecasting
- Airport wind-shear detection
- Meteorological research
- · Weather modification
- Agriculture
- Radiosonde Launch support systems
- * X band radars operate on a wavelength of 2.5-4 cm and a frequency of 8-12 GHz. Because of the smaller wavelength, the X band radar is more sensitive and can detect smaller particles. These radars are used for studies on cloud development because they can detect the tiny water particles and also used to detect light precipitation such as snow.
- * C band radars operate on a wavelength of 4-8 cm and a frequency of 4-8 GHz. Because of the wavelength and frequency, the dish size does not need to be very large. The signal is more easily attenuated, so this type of radar is best used for short range weather observation. The frequency allows C band radars to create a narrow beam width using a smaller dish. C band radars also do not require as much power as S band radar

SOURCE: ISRO, WMO and Newspapers

5. 6 Cities rated 5 Star, 65 Cities rated 3 Star and 70 Cities rated 1 Star

- The Star Rating Protocol was launched by the Ministry in January 2018 to institutionalize a mechanism for cities to achieve Garbage Free status, and to motivate cities to achieve higher degrees of cleanliness.
- > The new protocol will consider ward-wise **geo-mapping**, monitoring of SWM (Solid Waste Management) value chain through ICT interventions like Swachh Nagar App and zone-wise *rating in cities with population of 50 lakh+*.
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The Star Rating Protocol

- The Ministry of Housing and Urban Affairs (MOHUA) has launched the Protocol for Star Rating of Garbage Free cities. The star rating conditions have been designed in a way as to enable cities to gradually evolve into a model (7-star) city, with progressive improvements in their overall cleanliness.
- The star rating conditions are based on 25 key parameters across the solid waste management spectrum and has been designed to both help cities assess their progress while encouraging them to move towards a better rating thereby improving their cities' overall cleanliness and aesthetics.
- Cities are required to carry out self-assessment and self-verification for achieving a certain star rating.
- **This self-declaration will be further verified** through an independent third-party agency appointed by MoHUA for 1-star, 3-star, 5-star and 7-star garbage free ratings.
- The Ministry awarded 5-Star rating to six cities for being 'garbage-free' including Navi Mumbai and Surat, and Ambikapur (Chhattisgarh), Rajkot (Gujarat), Mysuru (Karnataka) and Indore (Madhya Pradesh).

SOURCE: MoHUA Website and The Business Line

Geo-mapping

- It is a visual representation of the geographical location of geotagged assets layered on top of map or satellite imagery.
- Geo-tagging is the process of ascertaining the geographical location of an image.
- It is the process of adding geographical identification like latitude and longitude to various media such as a photo or video.
- Geo-tagging can help users find a wide variety of location-specific information from a device. It provides users the location of the content of a given picture.
- Geo-tagging uses latitudes and longitudes to precisely locate where an image is taken. It gives reference points for users to analyse satellite data. You choose a point, and there is high-accuracy GPS equipment that can pinpoint the location with accuracy in centimetres.
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- It's useful for those who work with detailed urban imagery analysis. Simply put, geotagging is putting location information in images.
- Currently, geo-tagging is being used in a range of government schemes MGNREGA, Pradhan Mantri Awaas Yojana (Grameen), Pradhan Mantri Gram Sadak Yojana (PMGSY), for toilet construction under Swachh Bharat, as well as for highways and urban housing.
- According to government officials, so far, all the construction undertaken under the rural housing scheme has been geo-tagged.
- The postal department has geo-tagged post offices using Bhuvan, as has the Department of Land Resources for monitoring watershed activities in states. The agriculture ministry is also using the tool.
- In MGNREGA, the completed asset is geo-tagged and photographed by the 'gram rozgar sahayak' aka employment guarantee assistant or junior engineers.
- The Union Housing and Urban Affairs ministry has also started depending on geotagging to monitor the progress of urban infrastructure projects, for example the construction of toilets under its flagship Swachh Bharat Mission.

SOURCE: Newspapers

6. Union HRD Minister launches Al-powered mobile app for mock tests for JEE Main, NEET 2020

Over the last year, edutech as a sector has witnessed a lot of innovation especially in leveraging advanced technologies like Artificial Intelligence and Machine Learning, going beyond simple digital distribution of content.

<u>Artificial Intelligence and Machine Learning-</u> FOR DETAILS ON IT PLEASE REFER TO OUR TELEGRAM CHANNEL UPDATE PIB&AIR NEWS DATED 12/05/20 to 14/05/20

7. Indian Railways operationalises its most powerful 12000 HP made in India locomotive

- Indian Railways became 6th country in the world to join the elite club of producing high horsepower locomotive indigenously. It is the first time; high horsepower locomotive has been operationalised on broad gauge track in the world.
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> The locomotive has been produced under Make in India programme. The Madhepura factory is the largest integrated Green Field facility built to the highest standards of quality and safety with production capacity of 120 locomotives.

Horsepower

- ❖ Horsepower, the common unit of power; i.e., the rate at which work is done. In the British Imperial System, one horsepower equals 33,000 foot-pounds of work per minute—that is, the power necessary to lift a total mass of 33,000 pounds one foot in one minute.
- ❖ This value was adopted by the Scottish engineer James Watt in the late 18th century, after experiments with strong dray horses, and is actually about 50 percent more than the rate that an average horse can sustain for a working day.
- ❖ The electrical equivalent of one horsepower is 746 watts in the International System of Units (SI), and the heat equivalent is 2,545 BTU (British Thermal Units) per hour.
- Another unit of power is the metric horsepower, which equals 4,500 kilogram-metres per minute (32,549 foot-pounds per minute), or 0.9863 horsepower.
- The power produced by an engine is called its horsepower. In physics, power is defined as the rate at which something does work. For cars, horsepower translates into speed. So, if we want to go faster, and get up to speed quicker, we need more horsepower.
- ❖ Torque, on the other hand, is the expression of a rotational or twisting force. In vehicles, the engines rotate around an axis, thus creating torque. Torque can be viewed as the "strength" of a vehicle. It is the force that rockets a sports car from 0-60 in seconds and pushes you back in the seat. It is also what powers big trucks hauling heavy loads into motion.

SOURCE: Britannica and Motor magazines

8. Cabinet approves modifications in the existing "Partial Credit Guarantee Scheme (PCGS)"

The Union Cabinet has approved the **Sovereign portfolio guarantee** of up to 20% of first loss for purchase of Bonds or Commercial Papers (CPs) with a rating of AA and below (including unrated paper with original/initial maturity of up to one year) issued by NBFCs/ MFCs/Micro

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Finance Institutions (MFIs) by Public Sector Banks (PSBs) through an extension of the *Partial Credit Guarantee Scheme (PCGS)*.

Sovereign Guarantee

- **Sovereign Guarantee is a promise by the Government** to discharge the liability of a third person in case of his default.
- **Sovereign Guarantees are contingent liabilities** of the Central and State Governments that come into play on the occurrence of an event covered by the guarantee.
- ❖ The guarantee cover of the Government of India (GoI) is limited only to the payment of principal and normal interest in case of default. GoI is not be liable to pay any penal interest/any other charges.
- Article 292 of the Constitution of India extends the executive power of the Union to the giving of guarantees on the security of the Consolidated Fund of India, within such limits, if any, as may be fixed by Parliament. Similar powers are given to States under Article 293.
- Guarantees are paid out of the Guarantee Redemption Fund of the Government which is positioned in public accounts.

SOURCE: Arthapedia and Newspapers

Partial Credit Guarantee Scheme

- ❖ The scheme—that allows state-run banks to purchase pooled assets from non-bank financial companies—was first introduced in the Union Budget for 2019-20.
- ❖ It allows for purchase of high-rated pooled assets from financially-sound non-banking financial companies (NBFCs) and housing finance companies (HFCs) by public sector banks (PSBs).
- This will provide liquidity to the NBFC / HFC concerned for financing the credit demand of the economy, and also protect the financial system of the country from any adverse contagion effect that may arise due to the failure of such NBFCs / HFCs.
- It will enable them to continue contributing to credit creation and providing last mile lending to borrowers, thereby spurring economic growth.
- It was amended in December 2019 to accommodate low-rated NBFCs.
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- The extended scheme recently addresses temporary liquidity or cash flow mismatches of otherwise solvent NBFCs/HFCs/MFIs without having to resort to distress sale of their assets for meeting their commitments and to enable availability of additional liquidity to them for on-lending
- Then eased norms of the partial credit guarantee scheme and extended timeline aims to address liquidity issues of non-bank lenders and secure them from future defaults amid the disruptions caused by the new coronavirus pandemic.

SOURCE: Bloomberg and Other newspapers

9. Cabinet approves "Scheme for formalisation of Micro Food Processing Enterprises (FME)"

- ➤ The Union Cabinet has given its approval to a new Centrally Sponsored Scheme "Scheme for Formalisation of Micro food processing Enterprises (FME)" for the Unorganized Sector on All India basis with an outlay of Rs.10,000 crore.
- The expenditure will be shared by **GOI** and the States in ratio of 60:40.
- Scheme will be implemented over a 5-year period from 2020-21 to 2024-25.
- The scheme will be rolled out on All India basis. Grant will be provided to FPOs (Farmer Producers Organisation) for backward/forward linkages, common infrastructure, packaging, marketing & branding.
- > There are about 25 lakh unregistered food processing enterprises which constitute 98% of the sector and are unorganized and informal.
- Nearly 66 % of these units are located in rural areas and about 80% of them are family-based enterprises.
- > Strengthening this segment will lead to reduction in wastage, creation of off-farm job opportunities and aid in achieving the overarching Government objective of doubling farmers' income.

FPOs (Farmer Producers Organisation)

❖ A Producer Organisation (PO) is a legal entity formed by primary producers, viz. farmers, milk producers, fishermen, weavers, rural artisans, craftsmen.

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- ❖ A PO can be a producer company, a cooperative society or any other legal form which provides for sharing of profits/benefits among the members. In some forms like producer companies, institutions of primary producers can also become member of PO.
- ❖ FPO is one type of PO where the members are farmers. Small Farmers' Agribusiness Consortium (SFAC) is providing support for promotion of FPOs.
- ❖ An FPO, formed by a group of farm producers, is a registered body with producers as shareholders in the organisation. It deals with business activities related to the farm produce and it works for the benefit of the member producers.
- On the recommendations of an expert panel led by Y.K. Alagh, Centre had amended the Indian Companies Act, 1956, in 2002-03 to provide for "producer companies". A Farmer Producer Company is a hybrid between cooperative societies and private limited companies.
- **The objective of the concept of FPC is to organize farmers into a collective** to improve their bargaining strength in the market. They are viewed as an alternative to cooperative society.
- **Currently,** all FPOs are not eligible for tax exemption on par with cooperatives.

<u>Small Farmers' Agribusiness Consortium (SFAC)-</u> FOR DETAILS ON IT PLEASE REFER TO OUR TELEGRAM CHANNEL UPDATE PIB&AIR NEWS DATED 15/05/20 to 17/05/20 AND FOR FPO REFER TO OUR TELEGRAM CHANNEL UPDATE SUMMARY OF EONOMIC SURVEY PART 1

SOURCE: NABARD paper and Newspaper

10. Cabinet approves 'Pradhan Mantri Matsya Sampada Yojana – A scheme to bring about Blue Revolution through sustainable and responsible development of fisheries sector in India

- ➤ The Union Cabinet has given its approval for implementation of the Pradhan Mantri Matsya Sampada Yojana (PMMSY) A scheme to bring about Blue Revolution through sustainable and responsible development of fisheries sector in India under two components namely, Central Sector Scheme (CS) and Centrally Sponsored Scheme (CSS) at a total estimated investment of Rs. 20,050 crores comprising of
 - (i) Central share of Rs. 9,407 crores,
 - (ii) State share of Rs. 4,880 crore and
 - (iii) Beneficiaries' share of Rs. 5,763 crores.
- The Scheme will be implemented during a period of 5 years from FY 2020-21 to FY 2024-25.
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- The PMMSY will be implemented as an umbrella scheme with two separate Components namely
 - (a) Central Sector Scheme (CS) and
 - (b) Centrally Sponsored Scheme (CSS).

The Centrally Sponsored Scheme (CSS) Component is further segregated into Non-beneficiary oriented and Beneficiary orientated subcomponents/activities under the *following three broad heads:*

- 1. Enhancement of Production and Productivity
- 2. Infrastructure and Post-Harvest Management
- 3. Fisheries Management and Regulatory Framework

Central sector scheme and Centrally sponsored scheme

- Under Central sector schemes, it is 100% funded by the Union government and implemented by the Central Government machinery.
- Central sector schemes are mainly formulated on subjects from the Union List. In addition, the Central Ministries also implement some schemes directly in States/UTs which are called Central Sector Schemes but resources under these Schemes are not generally transferred to States.
- Under Centrally Sponsored Scheme (CSS) a certain percentage of the funding is borne by the States in the ratio of 50:50, 70:30, 75:25 or 90:10 and the implementation is by the State Governments.
- Centrally Sponsored Schemes are formulated in subjects from the State List to encourage States to prioritise in areas that require more attention. Funds are routed either through consolidated fund of States and or are transferred directly to State/ District Level Autonomous Bodies/Implementing Agencies.
- As per the Baijal Committee Report, April, 1987, CSS have been defined as the schemes which are funded directly by Central Ministries/Departments and implemented by States or their agencies, irrespective of their pattern of financing, unless they fall under the Centre's sphere of responsibility i.e., the Union List.
- Union government spends nearly 12% of its annual budget on centrally sponsored schemes.

SOURCE: Arthapedia and The Financial Express

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11. Cabinet approves Special Liquidity Scheme for NBFCs/HFCs to address their Liquidity Stress

- ➤ The Union Cabinet has given its approval to the proposal of the Ministry of Finance to launch a new *Special Liquidity Scheme for Non-Banking Financial Companies (NBFCs) and Housing Finance Companies (HFCs)* to improve liquidity position of the NBFCs/HFCs.
- An SPV would be set up to manage a Stressed Asset Fund (SAF) whose special securities would be guaranteed by the Government of India and purchased by the Reserve Bank of India (RBI) only.
- The proceeds of sale of such securities would be used by the SPV to acquire short-term debt of NBFCs/HFCs.
- > The Scheme will be administered by the Department of Financial Services, which will issue the detailed guidelines.
- Unlike the Partial Credit Guarantee Scheme which involves multiple bilateral deals between various public sector banks and NBFCs, requires NBFCs to liquidate their current asset portfolio and involves flow of funds from public sector banks, the proposed scheme would be a one-stop arrangement between the SPV and the NBFCs without having to liquidate their current asset portfolio.
- ➤ It has been announced in the Budget Speech of 2020-21 that a mechanism would be devised to provide additional liquidity facility to NBFCs/HFCs over that provided through the Partial Credit Guarantee Scheme (PCGS).

Non-Banking Financial Companies (NBFCs)

- A Non-Banking Financial Company (NBFC) is a company registered under the Companies Act, 1956 engaged in the business of loans and advances, acquisition of shares/stocks/bonds/debentures/securities issued by Government or local authority or other marketable securities of a like nature, leasing, hire-purchase, insurance business, chit business but does not include any institution whose principal business is that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/construction of immovable property.
- ❖ A non-banking institution which is a company and has principal business of receiving deposits under any scheme or arrangement in one lump sum or in
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instalments by way of contributions or in any other manner, is also a non-banking financial company (Residuary non-banking company).

- ❖ Financial activity as principal business is when a company's financial assets constitute more than 50 per cent of the total assets and income from financial assets constitute more than 50 per cent of the gross income. A company which fulfils both these criteria will be registered as NBFC by RBI.
- The term 'principal business' is not defined by the Reserve Bank of India Act.
- * NBFCs lend and make investments and hence their activities are akin to that of banks; however, there are a few differences as given below:
 - i. NBFC cannot accept demand deposits;
 - ii. NBFCs do not form part of the payment and settlement system and cannot issue cheques drawn on itself;
 - iii. deposit insurance facility of Deposit Insurance and Credit Guarantee Corporation is not available to depositors of NBFCs, unlike in case of banks.

FOR DETAILED UNDERSTANDING OF NBFC AND SHADOW BANKING PLEASE REFER TO OUR
TELEGRAM CHANNEL UPDATE SUMMARY OF ECONOMIC SURVEY PART1

SOURCE: RBI and Indian Express

SPV (Special Purpose Vehicle)- FOR DETAILS ON IT PLEASE REFER TO OUR TELEGRAM CHANNEL UPDATE PIB&AIR NEWS DATED 15/05/20 to 17/05/20

12. Cabinet approves additional funding of up to Rupees three lakh crore through introduction of Emergency Credit Line Guarantee Scheme (ECLGS)

- To enable additional funding of up to Rs. three lakh crores to eligible MSMEs and interested MUDRA borrowers by way of "Emergency Credit Line Guarantee Scheme."
- Under the Scheme, 100% guarantee coverage to be provided by National Credit Guarantee Trustee Company Limited (NCGTC) for additional funding of up to Rs. three lakh crores to eligible MSMEs and interested MUDRA borrowers, in the form of a Guaranteed Emergency Credit Line (GECL) facility.
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National Credit Guarantee Trustee Company Limited (NCGTC)

- National Credit Guarantee Trustee Company Ltd (NCGTC) is a private limited company incorporated under the Companies Act 1956 on March 28, 2014, established by the Department of Financial Services, Ministry of Finance, as a wholly owned company of the Government of India, to act as a common trustee company for multiple credit guarantee funds.
- Credit guarantee programmes are designed to share the lending risk of the lenders and in turn, facilitate access to finance for the prospective borrowers.
- The intent of NCGTC is to manage multiple guarantee schemes as part of a larger financial inclusion programme of the government covering different cross-sections and segments of the economy like students, micro entrepreneurs, women entrepreneurs, SMEs, skill and vocational training needs, etc.
- Presently, there are five dedicated credit guarantee Trusts under the Management of NCGTC viz. Credit Guarantee Fund Scheme for Educational Loans (CGFEL), Credit Guarantee Fund Scheme for Skill Development (CGFSD), Credit Guarantee Fund Scheme for Factoring (CGFF), Credit Guarantee Fund for Micro Units (CGFMU) and Credit Guarantee Fund for Stand Up India (CGFSI). Cumulatively, these five Trusts have a committed credit guarantee corpus of ₹ 13,000 crore.

SOURCE: NCGTC website and Newspapers

The main objective of the Scheme is **to provide an incentive to Member Lending Institutions** (**MLIs**), i.e., Banks, Financial Institutions (FIs) and Non-Banking Financial Companies (NBFCs) to increase access to, and enable availability of additional funding facility to MSME borrowers, in view of the economic distress caused by the COVID-19 crisis, by providing them 100 per cent guarantee for any losses suffered by them due to non-repayment of the GECL funding by borrowers.

13. Coir Geo textiles gets nod for Rural Road Construction

- > Coir Geo textiles, a permeable fabric, natural, strong, highly durable, resistant to rots, moulds and moisture, free from any microbial attack, has finally been accepted as a good material for rural road construction.
- Coir Geo textiles will be used for construction of rural roads under the PMGSY-III.

14. Government of India launches scheme for 100 % solarisation of Konark sun temple & Konark town

- The Ministry of New and Renewable Energy (MNRE) has taken up the Complete Solarisation of Konark sun temple and Konark town in Odisha.
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- The Scheme envisages setting up of 10 MW grid connected solar project and various solar off-grid applications like solar trees, solar drinking water kiosks, off-grid solar power plants with battery storage etc with a 100% Central Financial Assistance (CFA) support of around Rs. 25 Crores from Government of India through Ministry of New & Renewable Energy (MNRE).
- Implementation of this Project will be done by Odisha Renewable Energy Development Agency (OREDA).

15. SCTIMST to organize commercial launch of Agappe Chitra Magna for detection of COVID 19

The commercial launch of, **Agappe Chitra Magna**, a **magnetic nanoparticle-based RNA** extraction kit for use during testing for detection of COVID-19 developed by Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) - Trivandrum, an Institute of National Importance of the Department of Science and Technology (DST) along with Agappe Diagnostics Ltd, an *in vitro* diagnostics manufacturing company based in Cochin.

Magnetic Nanoparticle

- Magnetic nanoparticles are nanomaterials consist of magnetic elements, such as iron, nickel, cobalt, chromium, manganese, gadolinium, and their chemical compounds.
- ❖ Magnetic nanoparticles are superparamagnetic because of their nanoscale size, offering great potentials in a variety of applications in their bare form or coated with a surface coating and functional groups chosen for specific uses.
- In general, coated magnetic nanoparticles have been widely used in several medical applications, such as cell isolation, immunoassay, diagnostic testing and drug delivery.
- **Some applications are:**
 - Magnetic Separation- Magnetic nanoparticles particles such as beads have been extensively used for separation and purification of cells and biomolecules, due to their small size, promising separation mood, and good dispersibility. One of the trends in this subject area is the magnetic separation using antibodies conjugated with beads to provide highly accurate antibodies that can specifically bind to their matching antigens on the surface of the targeted sites;
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- Diagnostics- Improve contrast agents in MRI imaging, with significant benefits of improved sensitivity, good biocompatibility and ready detection at moderate concentrations;
- **Sensors** Used in a variety of instruments and formats for biosensing with an enhancement of sensitivity and the stability;
- Drug Delivery- Magnetic nanoparticles coated with a drug could be injected intravenously, transported, and retained at targeted sites, which make them highly promising system for drug delivery; and
- Therapy- Magnetic nanoparticle hyperthermia can also be used as an adjuvant to conventional chemotherapy and radiation therapy, which shows great potential.

SOURCE: Biomedical Research paper

Central Drugs Standard Control Organisation (CDSCO) has given approval for the commercialization of this kit.

Central Drugs Standard Control Organisation (CDSCO)

- The Central Drugs Standard Control Organization (CDSCO) is the Central Drug Authority for discharging functions assigned to the Central Government under the Drugs and Cosmetics Act.
- Its functions are Regulatory control over the import of drugs, approval of new drugs and clinical trials, meetings of Drugs Consultative Committee (DCC) and Drugs Technical Advisory Board (DTAB), approval of certain licenses as Central License Approving Authority is exercised by the CDSCO headquarters.
- SUGAM is an online licensing portal of CDSCO implemented on January 2016. It hep in filing various services like Application submission, Processing and grant of permission of quick delivery of services.

SOURCE: CDSCO Website

- It uses an innovative technology for isolating RNA using magnetic nanoparticles to capture the RNA from the patient sample.
- The *magnetic nanoparticle beads bind to the viral RNA* and, when exposed to a magnetic field, give a highly purified and concentrated RNA.

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As the sensitivity of the detection method is dependent on getting an adequate quantity of viral RNA, this innovation enhances the chances of identifying positive cases.

16. Second Addendum on Protocol on Inland Water Transit and Trade between India and Bangladesh, 2020

- People's Republic of Bangladesh and the Republic of India have a long standing and timetested *Protocol on Transit and Trade through inland waterways* of both countries. This Protocol, which was first signed in 1972 (immediately after independence of Bangladesh), is a reflection of shared history and friendship between the two countries.
- > It was last renewed in 2015 for five years with a provision for its automatic renewal for a further period of five years giving long term assurance to various stakeholders.
- > The number of Indo Bangladesh Protocol (IBP) routes are being increased from 8 to 10.
- > There are six Ports of Call each in India and Bangladesh under the Protocol. Five more Ports of Call and two more extended Ports of Call have been added, increasing the number to eleven Ports of Call and two extended Ports of Call in each country.

Ports of Call

- Port of call means an intermediate stop for a ship on its scheduled journey for cargo operation or taking on supplies or fuel. As Per the shipping Monitoring, Reporting and Verification (MRV) regulation a "port of call" can be defined as the port of a country where cargo or a passenger (cruise) ship halts to discharge or load the cargo or to embark or disembark passengers.
- Port of call can include both inland harbours and marine seaports that cater to vessels transiting internationally.

SOURCE: Marine Insight Website

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All India Radio (AIR--News From 18th May to 20th May 2020)

SPECIFIC AIR NEWS NOT COVERED ABOVE

1. CPI(M) asks centre to declare cyclone Amphan a national calamity

The Polit Bureau of the CPI(M) has demanded that central government must declare cyclone Amphan, a national calamity.

How Centre classify national calamity/disaster?

- In 2001, the National Committee on Disaster Management under the chairmanship of the then Prime Minister was mandated to look into the parameters that should define a national calamity. However, the committee did not suggest any fixed criterion.
- In the recent past, there have been demands from states to declare certain events as natural disasters, such as the Uttarakhand flood in 2013, Cyclone Hudhud in Andhra Pradesh in 2014, and the Assam floods of 2015.
- The 10th Finance Commission (1995-2000) examined a proposal that a disaster be termed "a national calamity of rarest severity" if it affects one-third of the population of a state. The panel did not define a "calamity of rare severity" but stated that a calamity of rare severity would necessarily have to be adjudged on a case-to-case basis taking into account, inter-alia, the intensity and magnitude of the calamity, level of assistance needed, the capacity of the state to tackle the problem, the alternatives and flexibility available within the plans to provide succour and relief, etc. The flash floods in Uttarakhand and Cyclone Hudhud were later classified as calamities of "severe nature".
- When a calamity is declared to be of rare severity/severe nature, support to the state government is provided at the national level.
- The Centre also considers additional assistance from the NDRF. A Calamity Relief Fund (CRF) is set up, with the corpus shared 3:1 between Centre and state.
- ❖ When resources in the CRF are inadequate, additional assistance is considered from the National Calamity Contingency Fund (NCCF), funded 100% by the Centre. Relief in repayment of loans or for grant of fresh loans to the persons affected on concessional terms, too, are considered once a calamity is declared "severe".
- As per the National Policy on Disaster Management, 2009, the National Crisis Management Committee headed by the Cabinet Secretary deals with major crises that have serious or
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national ramifications. For calamities of severe nature, inter-ministerial central teams are deputed to the affected states for assessment of damage and relief assistance required. An inter-ministerial group, headed by the Union Home Secretary, studies the assessment and recommends the quantum of assistance from the NDRF/National Calamity Contingency Fund (NCCF). **Based on this, a high-level committee** comprising the Finance Minister as chairman and the Home Minister, Agriculture Minister, and Planning Commission Deputy Chairman as members approves the central assistance.

SOURCE: Indian Express

<u>National Crisis Management Committee-</u> FOR DETAILS ON IT PLEASE REFER TO OUR TELEGRAM CHANNEL UPDATE PIB&AIR NEWS DATED 15/05/20 to 17/05/20

2. National Chemical Laboratory, Pune designs face masks that can filter out up to 99.9 pc bacteria and 92.6 pc of particulate

These masks are made up of *hydrophobic polypropylene* a medical grade cloth suitable for blocking droplets containing corona virus.

Hydrophobic polypropylene

- Polypropylene (PP) is one of the most important polymers for microporous membrane due to its high void volume, well-controlled porosity, high thermal and chemical stability, and low cost.
- Polypropylene (PP) is widely used in a variety of industrial applications such as wastewater treatment and separation process because of its low cost, good mechanical and thermal properties, and chemical stability.
- However, the hydrophobicity of PP material limits its applications and consequently many compounds have been used to modify the PP surface, in order to change its properties and increase their applications.
- Membrane fouling occurs more seriously on hydrophobic membranes than hydrophilic ones. To solve this problem, surface modifications have been developed to enhance PP membrane hydrophilicity without changing its bulk properties. Graft polymerization and plasma treatment are the most popular techniques for surface hydrophilization.
- Some of its application are: (After changing polypropylene from hydrophobic to hydrophilic)
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- Water and wastewater treatment- There are many areas in which membrane water treatment can play an important role, such as drinking water treatment, brackish and seawater desalination and wastewater treatment and reuse.
- Biotechnology- The choice of polymer membranes for various biotechnology applications depends on their surface properties. Specific surface properties like hydrophobicity, chemical structures, roughness, conductivity, etc. can be modified to meet the specific requirements.
- Medical- PP membranes have been applied for drug delivery, artificial organs
 (artificial kidney, liver, pancreas, lung, etc.), tissue regeneration, diagnostic devices,
 and other blood purification processes (e.g. plasma treatment and cell separation)
- **Battery separator** Separator materials for alkaline batteries have received a great attention due to the desire to develop high energy per unit weight and volume battery packages. Battery separator is usually made from a porous membrane that placed between positive and negative electrodes in order to prevent them from contacting one another that can lead to short circuit.

SOURCE: Research paper from Research Gate

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SUMMARY AND RELEVANT TERMS EXPLAINED FROM PIB AND AIR

DATED: 21.05.2020 TO 23.05.2020



Public Information Bureau (PIB-- News From 21st May to 23rd May 2020)

1. Defence manufacturing adversely affected due to COVID-19- MSMEs E-conclave of SIDM

- Equity infusion of Rs 50,000 crore will be provided through 'Mother-Daughter Fund' for the purpose of benefiting the needy MSMEs.
- A Rs 10,000 crore 'Fund of Funds' will be set up to help increase the capacity of these units and for marketing.
- The definition of MSME has been revised, so that MSMEs can be expanded. At the same time there will be no distinction between manufacturing and services sector MSMEs.

Mother-Daughter Fund and Fund of Funds

- Fund of Fund (FoF) is defined by the securities market regulator SEBI as a mutual fund scheme that invests primarily in other schemes of the same mutual fund or other mutual funds.
- FoF scheme enables the participating investors to achieve greater diversification and spreads risks across a greater universe. The funds they invest in are commonly known as "daughter funds".
- **Daughter fund** is not any different and it is one type of venture **fund** only.
- ❖ Daughter fund is created to park allocation from Fund of funds. Fund of Funds is like father who invests money in the future of Daughter called Daughter fund. Father collects money from others to invest in daughter.
- Union Finance Ministry announced that the government will infuse Rs 50,000 cr into MSMEs through a Fund of Funds as part of the economic package to overcome the economic stagnation brought about by the Covid-19 pandemic.
- It will be operated through a Mother Fund and few daughter funds. This will help to expand MSME size as well as capacity.
- The Fund of Funds will be set up with a corpus of Rs 10,000 crore and will provide equity funding for MSMEs with growth potential and viability.
- Multiple schemes and initiatives have been launched to give a boost to the start-up ecosystem - such as Start-up India, SIDBI Fund of Funds and initiatives by NITI Aayog.
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- ❖ SIDBI has been operating Fund of Funds programs, namely, All India Funds, Regional Funds, MSME-RCF, India Aspiration Fund (IAF), Fund of Funds for Start-ups (FFS) and ASPIRE Fund (AF) in which contributions are made to Alternative Investment Funds (AIFs) for investments in companies at different stages of business cycles such as seed, Series A, growth and so on.
- Fund of Funds for Start-ups (FFS) was launched on January 16, 2016 in line with the Start-up India Action Plan. It has an approved corpus of INR 10,000 crores for contribution to various Alternative Investment Funds (AIFs) registered with SEBI.

SOURCE: SIDBI Paper, Arthapedia and Hindustan Times

2. States express desire to expedite early notification of Ecologically Sensitive Area of Western Ghats.

- Six states viz, Kerala, Karnataka, Goa, Maharashtra, Gujarat and Tamil Nadu through Video Conference discuss issues relating to notification of *Ecologically Sensitive Area (ESA)* pertaining to Western Ghats
- > To conserve and protect the biodiversity of Western Ghats while allowing for sustainable and inclusive development of the region, *Government of India had constituted a High-Level Working Group under the Chairmanship of Dr. Kasturirangan.*
- The Committee had recommended that identified geographical areas falling in the six States may be declared as Ecologically Sensitive Areas.

Ecologically Sensitive Area (ESA)

- Ecologically Sensitive Areas (ESAs or ESZ) have been identified and notified by the Ministry of Environment & Forests (MoEF) since 1989. Notifications declaring areas as ESAs are issued under the Environment (Protection) Act 1986.
- ❖ The enactment of the *EPA is directly linked to the commitments India made* at the United Nations Conference on Human Environment held in Stockholm in June 1972.
- According to the 2002 guidelines, ESZ are formed to serve as "shock absorber" for protected areas. The basic aim here is to regulate certain activities around national parks and wildlife sanctuaries to minimise negative impact on the fragile ecosystem around.
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- An ecologically sensitive area is one that is protected by the government given the sheer number of species, plants and animals endemic to the region. According to the Environment (Protection) Act, 1986, the government can prohibit industrial operations such as mining, sand quarrying and building thermal power plants in sensitive areas.
- ❖ The definition offered by the MoEF: "An ecological sensitive area is a bio-climatic unit (as demarcated by entire landscapes) in the Western Ghats wherein human impacts have locally caused irreversible changes in the structure of biological communities (as evident in number/ composition of species and their relative abundances) and their natural habitats."
- The Western Ghats were declared an ecological hotspot in 1988.
- To categorise an area as ecologically sensitive, the government looks at topography, climate and rainfall, land use and land cover, roads and settlements, human population, biodiversity corridors and data of plants and animal species. They also act as a transition zone from areas of high protection to areas involving lesser protection.

Activities Allowed in ESZs

- Prohibited activities: Commercial mining, saw mills, industries causing pollution (air, water, soil, noise etc), establishment of major hydroelectric projects (HEP), commercial use of wood, Tourism activities like hot-air balloons over the National Park, discharge of effluents or any solid waste or production of hazardous substances.
- Regulated activities: Felling of trees, establishment of hotels and resorts, commercial
 use of natural water, erection of electrical cables, drastic change of agriculture system,
 e.g. adoption of heavy technology, pesticides etc, widening of roads.
- Permitted activities: Ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, use of renewable energy sources, adoption of green technology for all activities.

WHY CENTRE STATE TUSSLE?

The MoEF notification is based on findings of a High-Level Working Group, also known as the Kasturirangan committee. The government-appointed committee had said that the natural landscape of the Ghats constitutes only 41 per cent, or which 90 percent or 60,000 square kilometres were identified as ecologically sensitive.

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- **The committee suggested phasing out current mining projects** within five years, or when mining leases were about to expire.
- ❖ As the Kasturirangam reports was contended by all states, the government's new notification lists the 56,825 square kilometres as ecologically sensitive; 20,668 square kilometres in Karnataka, 17,340 sq kms in Maharashtra, 9,993 sq kms in Kerala, 6,914 sq kms in Tamil Nadu, 1,461 sq kms in Goa and 449 sq km in Gujarat.
- The Western Ghats was included as a 'World Natural Heritage Site' by UNESCO in 2012.

 According to the organisation, the Ghats, which are older than the Himalayas, are home to at least 325 globally threatened flora, fauna, bird, amphibian, reptile and fish species. It has been recognised as one of the world's eight 'hottest hotspots' of biological diversity.

SOURCE: MoEF Website, The Hindu and Down To Earth

- 3. Students, Teachers, Life-long learners, Senior Citizens and Homemakers may enrol and avail the benefits of SWAYAM courses to widen their horizon of learning.
 - > SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) is a programme initiated by Government of India and designed to achieve the three cardinal principles of Education Policy viz., access, equity and quality.
- 4. Local to Global: Khadi Masks to Hit Foreign Markets
 - The *Khadi and Village Industries Commission (KVIC)* is specifically using *Double Twisted Khadi fabric* for manufacturing of these masks as it helps retains moisture content inside, while providing an easy passage for the air to pass through.
 - What makes these masks more special is the hand-spun and hand-woven cotton and Silk fabrics. Cotton acts as a mechanical barrier while Silk is an Electrostatic barrier.

Khadi and Village Industries Commission (KVIC)

- The Khadi and Village Industries Commission (KVIC) is a **statutory body** established by an Act of Parliament.
- ❖ In April 1957, it took over the work of former All India Khadi and Village Industries Board.
- The KVIC is charged with the planning, promotion, organisation and implementation of programs for the development of Khadi and other village industries in the rural areas in coordination with other agencies engaged in rural development wherever necessary.
- ❖ The following are the schemes covered under the Khadi and Village Industries Commission (KVIC).
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- Prime Minister's Employment Generation Programme (PMEGP)
- Market Promotion Development Assistance (MPDA)
- Interest Subsidy Eligibility Certificate (ISEC)
- Workshed Scheme for Khadi Artisans
- Strengthening the infrastructure of existing weak Khadi institutions and assistance for marketing infrastructure
- Khadi Reform and Development Programme (KRDP)
- Scheme of Fund for Regeneration of Traditional Industries (SFURTI)
- Honey Mission

SOURCE: KVIC Website

5. IIT Guwahati discovers new ways to prevent memory loss due to Alzheimer

- > They studied the neurochemical principles of Alzheimer's and explored new ways to prevent accumulation of neurotoxic molecules in the brain that are associated with short-term memory loss.
- They report interesting methods such as *application of low-voltage electric field, and the use of 'trojan peptides'* to arrest aggregation of neurotoxic molecules in the brain.
- The development of a cure for Alzheimer's disease assumes importance *India as it has the third highest number of Alzheimer's patients in the world, after China and US.*
- ➤ A defining hallmark of Alzheimer's is the accumulation of amyloid beta peptides in the brain. Scientists seek methods to reduce the accumulation of these peptides, in order to arrest the progression of Alzheimer's.

6. Alternative dwarfing genes in wheat can eliminate rice crop residue burning

- In India, close to twenty-three million tonnes of leftover rice residues are annually burnt by farmers to get rid of the straw and prepare their fields for sowing wheat, which is the next crop, resulting in air pollution. Also, *dry environments pose a challenge for the germination of wheat varieties with short coleoptile.*
- > To overcome these problems, scientists have mapped two alternative dwarfing genes Rht14 and Rht18 in wheat. These genes are associated with better seedling vigour and longer coleoptiles (sheath protecting the young shoot tip).
- They mapped the dwarfing genes on chromosome 6A in durum wheat, and DNA-based markers were developed for a better selection of these genes in wheat breeding lines.
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> These DNA based markers are being used at ARI (Agharkar Research Institute) for markerassisted transfer of these genes in Indian wheat varieties, so as to make them suitable for sowing under rice stubble-retained conditions and dry environments.

DNA based markers

- Those characters which can be easily identified *are called marker characters*. Any genetic element (locus, allele, DNA sequence or chromosome feature) which can be readily detected by phenotype, cytological or molecular techniques, and used to follow a chromosome or chromosomal segment during genetic analysis is referred to as marker.
- **❖** *Markers related to variations in DNA fragments* generated by restriction endonuclease enzymes are called DNA markers or genetic markers.
- Simply, A gene or DNA sequence having a known location on a chromosome and associated with a particular gene or trait refers to DNA marker.
- DNA markers are also known as molecular markers or genetic markers. To overcome problems associated with morphological markers, the DNA-based markers have been developed.
- The important applications are listed as follows:
 - DNA markers are useful in the assessment of genetic diversity in germplasm, cultivars and advanced breeding material.
 - DNA markers can be used for constructing genetic linkage maps.
 - DNA markers are useful in identification of new useful alleles in the germplasm and wild species of crop plants.
 - DNA markers are used in the marker assisted or marker aided selection.
 - DNA markers are useful in the study of crop evolution.
 - Genetic markers play a key role in genetic mapping, specifically in identifying the positions of different alleles that are located close to one another on the same chromosome and tend to be inherited together. Such linkage groups can be used to identify unknown genes that influence disease risk. Technological advances, especially in DNA sequencing, have greatly increased the catalogue of variable sites in the human genome.

SOURCE: Britannica and Research papers

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7. Textiles Committee comes up with fully indigenous Design and Make in India PPE Testing Equipment

- > The inclusion of Textiles Committee as the ninth approved laboratory to test and certify body coveralls has been announced by the Ministry of Textiles.
- > The Textiles Committee is a statutory body established in 1963 through an Act of Parliament and is under the administrative control of the Ministry of Textiles, Government of India.
- It has been formed to ensure the quality of textiles and textile machinery both for internal consumption and export purpose.
- The Committee is tasked with the functions of establishing laboratories for the testing of textiles and textile machinery and providing for their inspection and examination, besides other functions which flow from the main objective of ensuring quality of textiles products and textiles machinery.

Technical Textile

- The Cabinet Committee on Economic Affairs has given its approval to set up a National Technical Textiles Mission with a total outlay of Rs 1480 Crore, with a view to position the country as a global leader in Technical Textiles.
- The Mission would have a four-year implementation period from FY 2020-21 to 2023-24.
- ❖ Technical Textiles are material and products manufactured primarily for their technical properties and functional requirements rather than for aesthetic characteristics.
- ❖ The scope of use of technical textiles encompasses a wide range of applications such as; Agro-textiles, medical textiles, geo-textiles, protection-textiles, industrial-textiles, sports-textiles and many other usages.
- ❖ Use of technical textiles have benefits of increased productivity in agriculture, horticulture and aquaculture fields; better protection of military, paramilitary, police and security forces, stronger and sturdier transportation infrastructure for highways, railways, ports and airports and in improving hygiene and healthcare of general public.
- Technical Textiles products are divided into 12 broad categories (Agrotech, Buildtech, Clothtech, Geotech, Hometech, Indutech, Mobiltech, Meditech, Protech, Sportstech, Oekotech, Packtech) depending upon their application areas.
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- ❖ India shares nearly 6% of world market size of 250 Billion USD. However, the annual average growth of the segment is 12%, as compared to 4% world average growth.
- Penetration level of technical textiles is low in India at 5-10%, against 30-70% in advanced countries. The Mission aims at improving penetration level of technical textiles in the country.
- The Government has also created Special Economic Zones (SEZs), with the objective of attracting Foreign Direct Investment (FDI). There are 14 SEZs in the country that specifically focus on textiles.

SOURCE: PIB and Make in India website

8. India among world's top five honey producers

- Government is implementing the recommendations of the Committee to promote beekeeping.
- Government has launched 'Honey Mission' as part of 'Sweet Revolution' which has four components.
- > Even small and marginal farmers can adopt beekeeping since investment is low and returns high.
- Scientists talked about the unique characteristics of Kashmir honey which is at par with the best in the world such as Manuka of New Zealand.

Sweet Revolution and Honey Mission

- ❖ India is one of the major exporters of honey in the world. As there is a more significant section of people involved in the business, the Government of India has launched various missions like National Beekeeping Honey Mission to overcome the challenges faced by the beekeepers.
- Government has set up the National Beekeeping Honey Mission to overcome the crisis in the field and enhance the beekeeping industry in India. The two major missions that look after the beekeeping activities and provide the necessary aids are:
 - Khadi and Village Industries Commission (KVIC)
 - National Bee Board (NBB)
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- Prime minister gave call for "Sweet Revolution" that of honey and "Blue Revolution" or spread of waterways to transport goods.
- In this direction KVIC launched Honey Mission in 2017 and has been training beekeepers, distributing Bee Boxes and helping rural, educated but unemployed youth to earn extra income through beekeeping activities, at their doorstep.
- On February 13, 2020, the Ministry of MSME (Micro, Small and Medium Enterprises) launched "Apiary on Wheels". It is a unique concept framed by KVIC. The main aim of "Apiary on Wheels" is to make migration easy.
- Apiary on wheels is a holistic approach to address the challenges faced by the beekeepers. It is designed so as to reduce the labour and cost of maintaining and upkeeping Bee Boxes and live bee colonies across India.

SOURCE: PIB, KVIC Website and Indian Express

9. IMD Weather Services VIA UMANG Mobile App

- The UMANG mobile app (Unified Mobile Application for New-age Governance) is a Government of India all-in-one single, unified, secure, multi-channel, multi-platform, multi-lingual, multi-service mobile app, powered by a robust back-end platform providing access to high impact services of various organizations (Central and State).
- ➤ **Prime Minister of India** launched the **UMANG App** in 2017 to bring major government services on a single mobile app, with a larger goal to make the government accessible on the mobile phone of our citizens.
- > To further enhance the initiatives of Digital India Programme, *MeitY has brought the India Meteorological Department (IMD) services on the "UMANG App"*.
- > The following 7 services of IMD have been on-boarded on UMANG Mobile application:
 - **Current Weather** Current temperature, humidity, wind speed, direction for 150 cities updated 8 times a day. Information on sunrise/ sunset and moonrise/ moonset is also given.
 - **Nowcast-** Three hourly warnings of localized weather phenomena and their intensity issued for about 800 stations, and districts of India by State Meteorological Centres of IMD. In case of severe weather, its impact also is included in the warning.
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- City Forecast Past 24 hours and 7 day forecast of weather conditions around 450 cities in India are given.
- Rainfall Information- All India district Rainfall information daily, weekly, monthly and cumulative series are available.
- Tourism Forecast- Past 24 hours and 7 day forecast of weather conditions of around 100 Tourist cities in India are provided.
- Warnings- The alert issued to warn citizens of approaching dangerous weather. It is colour coded in Red, Orange and Yellow are the alert levels with Red as the most severe category. Issued twice a day for all districts for the coming five days.
- Cyclone- Cyclone warnings and alerts provide the track of cyclonic storms along with likely time and point of crossing of coast. Impact based warnings, area/district wise, are issued so that appropriate preparation including evacuation of vulnerable areas can be done.

10. India will share its best practices and experiences in conserving biodiversity with the rest of the world: Union Environment Minister

- In a virtual celebration of the *International Day for Biological Diversity 2020*, Union Ministry of Environment, Forest and Climate Change, launched key initiatives towards conservation of biodiversity.
- > The year 2020 which is also the "SUPER YEAR FOR BIODIVERSITY", as the Strategic Plan for Biodiversity with 20 global Aichi targets adopted in 2010 ends in 2020 and all the countries together are in the process of preparation of Post-2020 Global Biodiversity Framework.
- The virtual event also saw the Launch of UNEP Campaign on Illegal Trafficking of Endangered Species: 'Not all Animals Migrate by Choice'.
- Illegal trade in wildlife carries the risk of spreading dangerous pandemics. The campaign Not all Animals Migrate by Choice, launched by the Wildlife Crime Control Bureau, with UNEP, seeks to address these environmental challenges, to raise awareness, and to advocate solutions.

Global Aichi targets

The Aichi Biodiversity Targets were included in the Strategic Plan for Biodiversity for the 2011-2020 period adopted by the 10th meeting of the Conference of the Parties of the Convention on Biological Diversity at Nagoya.

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- The Aichi Biodiversity Targets named after Japan's Aichi Prefecture were established under the United Nations Convention on Biological Diversity and are quite possibly the best roadmap nations have for biodiversity conservation.
- The Strategic Plan for Biodiversity includes 20 time-bound, measurable targets to be met by the year 2020 (Aichi Biodiversity Targets).
- ❖ A set of 20 global targets under the Strategic Plan for Biodiversity 2011-2020. They are grouped under five strategic goals:
 - Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.
 - Reduce the direct pressures on biodiversity and promote sustainable use.
 - Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity.
 - Enhance the benefits to all from biodiversity and ecosystem services.
 - Enhance implementation through participatory planning, knowledge management and capacity building.
- Recently, the report by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is the most comprehensive scientific evaluation ever made of the state of our nature, and gives a detailed account of health of the species that inhabit this earth, and the condition of habitats that they live in and depend upon.
- ❖ The report says that 75% of Earth's land surface and 66% marine environments have been "significantly altered", and that "over 85%" of wetland area had been lost. But, on an average, these trends were less severe on areas controlled or managed by indigenous people and local communities (like tribal communities in India).
- ❖ IPBES is a global scientific body very similar in composition and functioning to the betterknown Intergovernmental Panel on Climate Change (IPCC) that makes periodic reviews of scientific literature to make projections about the earth's future climate.
- IPBES is mandated to do a similar job for natural ecosystems and biodiversity. Like IPCC, IPBES does not produce any new science, it only evaluates existing scientific knowledge to make assessments and projections.
- ***** The report does not have country-specific information.

SOURCE: CBD website, Indian express and UN website

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11. 9th Edition of the Status Paper on Government Debt

- ➤ This document enhances transparency by providing a detailed account of debt operations during the year. It covers details of the financing operations of *fiscal deficit* of the Central Government during the year 2018-19.
- Government's **Debt Portfolio** is characterised by a prudent risk profile and the Government is primarily resorting to market linked borrowings for financing its fiscal deficit.
- > Conventional indicators of debt sustainability, i.e., Debt/GDP ratio, interest payment to revenue receipts, shares of short-term Debt/ External Debt/ FRBs in total debt, are analysed in the document in a comprehensive manner.

Government Debt

- The overall debt for Government of India includes debt and liabilities contracted in the Consolidated Fund of India (technically defined as Public Debt) as well as liabilities in Public Account.
- ❖ In the Indian context, public debt includes the total liabilities of the Union government that have to be *paid from the Consolidated Fund of India*.
- Sometimes, the term is also used to refer to the overall liabilities of the central and state governments. However, the Union government clearly distinguishes its debt liabilities from those of the states. It calls overall liabilities of both the Union government and states as General Government Debt (GGD) or Consolidated General Government Debt.
- The study of public debt involves the study of various factors such as debt-to-GDP ratio, and sustainability and sources of government debt. The fact that almost a fourth of the government expenditure goes into interest payment explains the magnitude of the liabilities of the Union government.
- The Union government describes those of its liabilities as public debt, which are contracted against the Consolidated Fund of India. This is as per Article 292 of the Constitution.
- The Union government broadly classifies its liabilities into two broad categories. The debt contracted against the Consolidated Fund of India is defined as public debt and includes all other funds received outside Consolidated Fund of India under Article 266 (2) of the Constitution, where the government merely acts as a banker or custodian. The second type of liabilities is called public account.

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- ❖ Internal debt constitutes more than 93% of the overall public debt.
- External Debt is a small proportion of the overall public debt of the Government of India. It is largely used for financing specific projects at the Central and State levels. States are not permitted to contract external debt directly and therefore in the existing system all external debt (even those not used for financing Central Govt. projects) are first contracted in the Consolidated Fund of India and then on-lent to States. Most of the external debt is from Multilateral agencies such as IDA, IBRD, ADB etc.

❖ Sources of Public Debt

- Dated government securities or G-secs.
- Treasury Bills or T-bills
- External Assistance
- Short term borrowings
- Public Debt definition by Union Government
- Public Debt is the money owed by the Union government, while private debt comprises of all the loans raised by private companies, corporate sector and individuals such as home loans, auto loans, personal loans.
- **The debt-to-GDP ratio indicates how likely the country can pay off its debt.** Higher debt-to-GDP ratios have fuelled economic crises worldwide.
- ❖ The NK Singh Committee on FRBM had envisaged a debt-to-GDP ratio of 40 per cent for the central government and 20 per cent for states aiming for a total of 60 per cent general government debt-to-GDP.

SOURCE: Finance Ministry Website, Economic Times and Financial Express

Fiscal Deficit

- ❖ The difference between total revenue and total expenditure of the government is termed as fiscal deficit. It is an indication of the total borrowings needed by the government. While calculating the total revenue, borrowings are not included.
- The gross fiscal deficit (GFD) is the excess of total expenditure including loans net of recovery over revenue receipts (including external grants) and non-debt capital receipts. The net fiscal deficit is the gross fiscal deficit less net lending of the Central government.
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- Generally fiscal deficit takes place either due to revenue deficit or a major hike in capital expenditure. Capital expenditure is incurred to create long-term assets such as factories, buildings and other development.
- ❖ A deficit is *usually financed through borrowing from either the central bank* of the country or raising money from capital markets by issuing different instruments like treasury bills and bonds.
- Fiscal Deficit = Total expenditure of the government (capital and revenue expenditure)
 Total income of the government (Revenue receipts + recovery of loans + other receipts)
- Sometimes, the governments spend on handouts and other assistance to the weak and vulnerable sections of the society such as the farmers and the poor. A high fiscal deficit can also be good for the economy if the money spent goes into the creation of productive assets like highways, roads, ports and airports that boost economic growth and result in job creation.

SOURCE: Financial Express and Economic Times

12. Consultations ongoing to raise advertisement air time on community radios to 12 minutes per hour

- Raising airtime for advertisements to 12 minutes from 7 minutes on Community Radios currently to bring them at par with TV channels.
- While 75% of the expenditure during setting-up of Community Radio stations is borne by the Ministry and that comprises a major expenditure, daily operations' expenditure is borne by the Station.
- Community Radio is a third tier of Radio broadcasting along with Public Radio (All India Radio) and Private Radio Broadcasting (FM).
- It is a low power FM Radio station, *focused on local issues, owned and managed by community itself,* for the benefit of the community, in a radius of 10-15 Kms.
- Community Radios, in India, started after the first policy for Community Radios was notified in the year 2002.
- This policy allowed only Educational Institutions to set up Community Radios.
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- This policy was broad-based in 2006, when gross-roots organizations like NGOs, KVKs and other not-for-profit organizations were also allowed to set up Community Radios in India.
- Today, India has 290 operational Community Radio Stations. These Community radio station covers approximately 90 million peoples in the country, where other media presence is very limited.
- The broadcast made by these CRSs are in local language and dialect, so it has more impact on the community.

Community Radios

- ❖ A community radio station is one that is **operated in the community, for the community, about the community and by the community**
- The community can be territorial or geographical a township, village, district or island. It can also be a group of people with common interests, who are not necessarily living in one defined territory. Consequently, community radio can be managed or controlled by one group, by combined groups, or of people such as women, children, farmers, fisherfolk, ethnic groups, or senior citizens.
- What distinguishes community radio from other media is the high level of people's participation, both in management and program production aspects. Furthermore, individual community members and local institutions are the principal sources of support for its operation.
- Community radio helps to put the community members in charge of their own affairs.
- **The simplest community radio set up can** consist of a low-power transmitter harnessed with an antenna, a tape recorder and a microphone.

SOURCE: UNESCO

13. Government pitches for making Aatmanirbhar Bharat a cornerstone in pipeline projects

Project work along the Pradhan Mantri Urja Ganga, JHBDPL (Jagdishpur-Haldia and Bokaro-Dhamra) pipeline, has resumed in full swing post lockdown and is gearing up to

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connect Eastern India with the West to Central natural gas pipeline corridor for boosting gas-based economy in the country.

- Indian Oil is implementing 1450 km long natural gas pipeline project in southern India, with a project cost of ₹6025 crore.
- The Indradhanush Gas Grid Ltd., natural gas pipeline grid being developed in the northeast, will ensure uninterrupted supply of natural gas to all the 8 north-eastern states, accelerate their economic growth and help usher a gas-based economy in India.

Pradhan Mantri Urja Ganga

- ❖ The project was targeted at meeting the energy requirements of 40 districts and 2,600 villages covering five eastern states -- UP, Bihar, Jharkhand, Odisha, and West Bengal -- by 2020. The project was launched in October 2016 and is also known as Jagdishpur-Haldia/Bokaro-Dhamra Pipeline (JHBDPL).
- The project will not just supply CNG to automobiles and cooking gas to household kitchens in cities along the route, but also to industries to meet their feedstock or fuel requirement.
- The project will usher in industrial development in the eastern part of India by supplying environmentally clean natural gas to fertiliser and power plants, refineries, steel plants, and other industries.
- It will also provide clean energy to households and transportation in the cities en route the pipeline.

SOURCE: Newspapers

14. IASST develops electrochemical sensing platform for detecting carcinogenic & mutagenic compounds in food

- Institute of Advanced Study in Science and Technology (IASST), Guwahati, has developed an electrochemical sensing platform for detecting carcinogenic or *mutagenic compound* N-nitrosodimethylamine (NDMA) and N-nitrosodiethanolamine (NDEA) sometimes found in food items like cured meat, bacon, some cheese, and low-fat milk.
- It was achieved by developing a modified electrode by immobilizing carbon nanomaterials *(carbon dots)* in DNA.

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- > The electrochemical biosensor platform was developed using the ability of NDMA and NDEA, to alter the DNA.
- Carbon dots (CDs), a carbon-based nanomaterial, was used, which is already established as a biocompatible and environmentally friendly material. Naturally derived chitosan, (natural biopolymer obtained from the shells of shrimp, lobster, and crabs) is an environment-friendly sustainable material that was used to synthesize CDs.

Carbon dots (CDs)

- Carbon dots (CDs) have received an increasing amount of attention because of their significant advantages in terms of low toxicity, chemical inertness, tunable fluorescence, good water solubility, and physicochemical properties.
- Due to these desirable properties, they have been used in numerous fields, including chemo- and biosensing, fluorescence imaging, and drug delivery.
- ❖ Because of their outstanding physical and chemical properties together with biocompatibilities, CDs find a wide spectrum of applications in drug delivery, explosive detection, chemical sensing, food safety, bioimaging, energy conversion, photocatalysis, etc.
- **CD** is the youngest member in the family of nanoworld. They are commonly spherical in shape having average diameter less than 10 nm.
- Hydrothermal methodology perhaps is the most promising method in recent years for the synthesis of CDs due to their nontoxic, environment friendly, low cost, and easy operational technique.
- Application of CDs
 - Detection of Toxic Chemicals in Food
 - Detection of Explosives
 - Chemical Sensors
 - Surface Enhance Raman Spectroscopy (SERS)
 - Drug Delivery, Bioimaging, and Biosensing
 - Photocatalyst
 - Solar Energy Conversion

SOURCE: Research Papers

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15. Ministry of Tourism organises webinar titled 'Tigers and Tourism' under "Dekho Apna Desh" series

- > The Ministry of Tourism organised its latest webinar on 'Tigers and Tourism' under Dekho Apna Desh Webinar Series on 21st May 2020. The webinar was all about unveiling the rich heritage of tiger habitation in India and its relevance with tourism in India.
- The intrinsic connection has been successfully seen through south western communities of India who represent their reverence for tigers by painting themselves in tiger stripes walking from temple to temple and village to village.
- ➤ Huli Vesha or Pili Yesais a folk-dance famous in coastal Karnataka performed during Navratri to honour the Goddess Durga whose favoured animal is the tiger.
- > 70% of world's tiger population is found in diverse habitats of India with about 15 species of big cats presently existing in 50 reserves spread across the country.
- Starting from Jim Corbett National Park, Uttarakhand in the north to the moist lands of Kaziranga National Park in Assam(north east) and the Sunderbans of West Bengal (east) to the dry lands of Ranthambore National Park in Rajasthan, Kanha and Bandhavgarh Tiger reserves in Madhya Pradesh, central India, to many other reserves in the rainforests of Western Ghats such as Nagarhole National Park, Periyar Tiger reserve, Bandipur National Park and Anamalai Tiger reserve, Madumalai National Park in southern India amongst many others, these large animals have been preserved in different arrays of habitats.

16. RBI announces nine additional measures for strengthening the Economy

- > States have been allowed to borrow more from Consolidated Sinking Fund.
- The Consolidated Sinking Fund is being maintained by state governments as a buffer for repayment of their liabilities.
- > The rules governing withdrawal from this Fund have now been relaxed, in order to enable states to enable them to repay their borrowings from the market, which become due in 2020-21.

Consolidated Sinking Fund

- State Governments are maintaining the Consolidated Sinking Fund (CSF) and the Guarantee Redemption Funds (GRF) with the Reserve Bank as buffers for repayment of their liabilities.
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- Currently, State Governments can avail of Special Drawing Facility (SDF) from the Reserve Bank against the collateral of the funds in CSF and GRF. The rate of interest charged is 100 bps below the Repo Rate at which Ways and Means Advances are extended to the State Governments.
- CSF was set up in 1999-2000 by the RBI to meet redemption of market loans of the States. Initially, 11 States — Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Goa, Maharashtra, Meghalaya, Mizoram, Tripura, Uttaranchal and West Bengal — set up sinking funds.
- Later, the 12th Finance Commission (2005-10) recommended that all States should have sinking funds for amortisation of all loans, including loans from banks, liabilities on account of NSSF (National Small Saving Fund), etc. The fund should be maintained outside the consolidated fund of the States and the public account and should not be used for any other purpose, except for redemption of loans.
- As per the scheme, State governments could contribute 1-3 per cent of the outstanding market loans each year to the Fund. The Fund is administered by the Central Accounts Section of RBI Nagpur.
- The States want the Centre to relax norms regarding using money accumulated in funds such as Consolidated Sinking Fund (CSF) and the Building and Other Construction Workers' Welfare Cess Fund (BoCWWCF).
- The Building and Other Construction Workers (Regulation of Employment and Conditions of Services) Act, 1996 prescribes use of cess collected only for the welfare of building and other construction workers. Here the big issue is that number of registered workers is much less as compared to the actually employed, putting large chunk of money unutilised.

SOURCE: The Business Line and Business Standard

17. MISSION SAGAR - INS KESARI AT PORT LOUIS, MAURITIUS

- The Government of India is providing assistance to friendly foreign countries in dealing with the COVID-19 Pandemic, and towards this *Indian Naval Ship Kesari is carrying COVID* related essential medicines and a special consignment of Ayurvedic medicines for the people of Mauritius.
- This mission highlights the importance accorded by India to relations with the countries of the IOR and builds on the excellent relations existing between the two countries to battle the COVID-19 pandemic.
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The operation is being progressed in close coordination with the Ministry of External Affairs, and other agencies of the Government of India.

Indian Ocean Region

- ❖ The Indian Ocean Region (IOR) *extends from the* East Coast of Africa to South East Asia, including Indonesia to our east and Australia in the south east, that is, the Arabian Sea to the west and the Bay of Bengal to the east.
- India sits at the centre of this vast and populous region where China is aggressively expanding its presence.
- ***** The Indian Ocean is important for three reasons.
 - First, it enjoys a privileged location at the crossroads of global trade, connecting the major engines of the international economy in the Northern Atlantic and Asia-Pacific.
 - About 40 per cent of the world's oil supply and 64 per cent of oil trade—travel
 through the entryways into and out of the Indian Ocean, including the Straits of
 Malacca and Hormuz and the Bab-el-Mandeb.
 - Second, the Ocean's vast drainage basin is important in its own right, home to some two billion people. This creates opportunities, especially given the high rates of economic growth around the Indian Ocean rim, including in India, Bangladesh, Southeast Asia, and Eastern and Southern Africa.
 - *Finally, the Indian Ocean is rich in natural resources*. Forty per cent of the world's offshore oil production takes place in the Indian Ocean basin.

SOURCE: Brookings and Economic Times

18. Food and Immunity: Correlation to combat against COVID-19

- In the absence of any prescribed treatment, vaccine and therapeutic recommendations being available against COVID-19, governments of most countries and several authorised international health agencies like the World Health Organisation, the British Dietetic Association, and the UD Food and Administration are emphasizing on maximum use of raw vegetables and fruits, nuts, and seeds; pulses and wholegrain foods; unsaturated oils; limit the intake of soda, salt, sugar, and trans fats; and stop eating junk and sugary food.
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- Ayurveda considers that proper food selection and dietary schedule help to maintain holistic health with a calm mind. **Bhagwad Gita and Yoga Shastras divided food into three types** based on their qualities (termed as gunas). They are
 - Sathva (satoguna)- Sathva means goodness,
 - Rajasa (rajoguna)- Whereas Rajasa means aggressive/active,
 - Thamasa (tamoguna)- Thamasa means inactive.
- A Satvik diet is meant to include foods and eating habits that are natural, vital and energy-containing and provides calmness, purity and promote longevity, intelligence, strength, health and delight.
- ➤ A Rajasic diet, the mode of passion, is one that is overly spicy, hot, or fried with pungent, sour, and salty taste. Rajasic food possesses attributes of negativity, passion, and restlessness.
- ➤ A Tamsik diet, the mode of ignorance, is one that consists of overcooked, stale, fast, reheated, microwaved, or frozen food; dead food such as meat, fish, poultry, eggs; alcohol, cigarettes, and drugs of addiction.
- The combination of high-fructose corn syrup (HFCS) and table sugar has become a primary choice of food industries as a sweetener due to its better shelf-life, more palatability and competitive price. This resulted in an additional 30% increase in overall sweetener intake and inability to regulate the hormones insulin and leptin and to inhibit the production of ghrelin, all factors that are known to affect the satiety centre in our brain, regulate blood glucose levels and appetite.
- Fast foods and fried foods are made up by using *hydrogenated or artificial trans-fats* (or trans-fatty acids) which meets their food processing needs, easy to use, inexpensive and can be used many times in the commercial fryers.
- > On the other hand, food rich in Prana ('life-force') is a combination of carbohydrates, fats, rich in dietary fibre, vitamins, minerals, and antioxidants with a limited amount of sugar, salt and oil, and no animal fat. It can be digested easily and utilize the six tastes in Ayurveda (sweet, sour, salty, pungent, bitter, astringent).

Hydrogenated or artificial trans-fats

- We should avoid artificial trans fats, also called partially hydrogenated oils, as much as possible. They raise your "bad" (LDL) cholesterol level.
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- There are two broad types of trans fats found in foods: naturally occurring and artificial trans fats.
- ❖ Naturally occurring trans fats are produced in the gut of some animals and foods made from these animals (e.g., milk and meat products) may contain small quantities of these fats. Artificial trans fats (or trans fatty acids) are created in an industrial process that adds hydrogen to liquid vegetable oils to make them more solid.
- The primary dietary source for trans fats in processed food is "partially hydrogenated oils."
- Trans fats raise our bad (LDL) cholesterol levels and lower our good (HDL) cholesterol levels. Eating trans fats increases your risk of developing heart disease and stroke. It's also associated with a higher risk of developing type 2 diabetes.
- * Replacing trans fats with unsaturated fatty acids decreases the risk of heart disease, in part, by ameliorating the negative effects of trans fats on blood lipids. In addition, there are indications that trans-fat may increase inflammation and endothelial dysfunction.

SOURCE: WHO and American Heart Association

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All India Radio (AIR--News From 21st May to 23rd May 2020)

SPECIFIC AIR NEWS NOT COVERED ABOVE

1. India Post to work towards realizing vision of PM for Aatmanirbhar Bharat: Ravi Shankar Prasad

Around one thousand 500 crore rupees disbursed to around 85 lakh beneficiaries using Aadhaar enabled Payment System of *India Post Payments Bank*.

India Post Payments Bank

- ❖ India Post Payments Bank (IPPB) was setup under the Department of Post, Ministry of Communication with 100% equity owned by Government of India.
- IPPB was launched as a pilot project on 30 January 2017 in Ranchi (Jharkhand) and Raipur (Chhattisgarh), with the objective of being present across India by the FY 2018-2019.
- It has been incorporated as a public sector company and is governed by the Reserve Bank of India.
- This payments bank of the Indian postal department will work through a network of post offices and nearly 3 lakh postmen and 'Grameen Dak Sewaks'.
- A payments bank is a differentiated bank, offering a limited range of products. It can accept deposits of up to ₹ 1 lakh per customer. Unlike traditional banks, it cannot issue loans and credit cards. India Post Payments Bank will offer three types of savings accounts—regular, digital and basic—at an interest rate of 4% per annum. It will provide doorstep banking facility at a charge of ₹ 15-35 per transaction. The limit for doorstep banking is ₹ 10,000.

SOURCE: Indian Post, Indian Express and Live mint

2. 22 opposition parties call upon Centre to declare Cyclone Amphan as national calamity

- Opposition leaders from 22 parties extended their support to the government and people of West Bengal and Odisha. The two states faced the extremely severe cyclone Amphan.
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How Centre classify national calamity/disaster? - FOR DETAILS ON IT PLEASE REFER TO OUR TELEGRAM CHANNEL UPDATE PIB&AIR NEWS DATED 18/05/20 to 20/05/20

3.India has preserved around eight pct. of World's Biodiversity

- India has 2.5 per cent of world's land mass, 16 per cent of Human and 16 per cent of cattle population, but it has still preserved around eight per cent of world's biodiversity as Indian philosophy has always preached about the world as a family and living with the nature.
- > Government has passed Bio-diversity Act in Parliament and since 2014, every Panchayat maintains Bio-diversity register.

4. India takes initiative for developing regional cooperation in controlling Desert Locust

- Food and Agriculture Organization (FAO) said, in Iran, hopper bands of the Locust are maturing along the southwestern coastal plains and another generation of breeding is underway in the southeast where hatching is taking place on the coast and in the interior of Sistan-Baluchistan.
- To further regional cooperation, *India has proposed coordinated response to Desert Locust control* to Iran and Pakistan. India has suggested to Pakistan that both countries coordinate *locust control operation* along the border and that India can facilitate supply of *pesticide Malathion* to Pakistan.

Malathion and Locust control program- FOR DETAILS ON IT PLEASE REFER TO OUR TELEGRAM CHANNEL UPDATE PIB&AIR NEWS DATED 12/05/20 to 14/05/20

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SUMMARY AND RELEVANT TERMS EXPLAINED FROM PIB AND AIR

DATED: 24-05-2020 TO 26-05-2020



Public Information Bureau (PIB-- News From 24th May to 26th May 2020)

1. Credit rating of Central PSU HIL (India) upgraded to BBB- from BB

Credit rating of Central PSU upgraded to BBB- from BB. Which is a stable investment grade.

Credit Rating and its Implication

- Credit ratings indicate the ability of a borrower to repay his obligations. It is critical that investors realise that credit rating is not a guarantee but simply an opinion of the rating agency.
- ❖ Simply, A credit rating represents a rating agency's opinion on the likelihood of the rated debt obligation being repaid in full and on time. This opinion helps stakeholders comparatively assess investment options and facilitates the issuer's access to funds.
- Credit Rating agencies (CRA) assign credit ratings using three rating scales—global, regional and national scale ratings. The essential difference between them is scope: while global scale ratings are assigned based on an assessment of the issuer in relation to other issuers globally, and regional scale ratings are based primarily on credit risk comparisons within a specific region, national scale ratings are based primarily on credit risk comparisons within a domestic context.
- ❖ A rating outlook may be positive, stable, or negative.
 - A 'Positive' outlook indicates that there is a material likelihood (at least one-inthree) of the rating being upgraded over the medium term
 - A 'Stable' outlook indicates that the rating is likely to remain unchanged over the medium term
 - A 'Negative' outlook indicates that there is material likelihood (at least one-inthree) of the rating being downgraded over the medium term.
- National scale ratings, including CRISIL ratings, provide superior credit differentiation among issuers/issues within a country by using the sovereign rating as a benchmark. Hence, CRISIL's ratings are assigned on a domestic currency scale relative to the sovereign rating of the Government of India, which is assumed to have the highest rating of 'AAA'

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- However, there is a growing perception in India that credit rating agencies have been too charitable in rewarding ratings. For instance, the number of companies that enjoy AAA status in India is very high compared to other nations.
- The bulk of the AAA rated entities in India are PSUs that enjoy quasi-sovereign status owing to their government parentage. Companies rated AAA in other countries mostly belong to the private sector. Further, the scale used by Indian rating agencies pertains to borrowing in rupee terms, whereas the international ratings are for borrowings in dollars or other foreign currency. The same domestic companies when rated on the global scale will have a lower rating.

Bulk of bond issuers in India are rated high quality

Investors should look beyond the ratings

Credit rating	Number of companies	Rating description
AAA	63	Highest safety
AA	198	High safety
А	56	Adequate safety
Below A*	21	Moderate/inadequate safety or high risk of default

*includes B, BB, BBB, C and D rated companies. The figures pertain to long-term borrowings of rated companies in the BSE 500 universe. Compiled by ETIG Database

- ❖ In its Financial Stability Report (FSR) RBI has warned of 'rating shopping' by companies for long-term bank loans based on indicative ratings given by CRAs which are not available to the banks or investors.
- * Rating shopping refers to how, a company or a debt paper manages to get same or better rating from another agency within three months of it getting a poor rating.
- All the credit rating agencies in India are regulated by Securities and Exchanges Board of India (SEBI). The credit rating agencies are monitored and reviewed by SEBI.
- In December 2019, the market regulator imposed a Rs.25 lakh penalty on CARE Ratings Ltd., ICRA Ltd., and India Ratings and Research Pvt. Ltd. with regards to the lapses in the assignment of credit ratings to IL&FS's non-convertible debentures
- ❖ As per SEBI official website there are 7 registered CRAs in India:
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- CRISIL Limited;
- India Ratings and Research Pvt. Ltd. (formerly Fitch Ratings India Pvt. Ltd.)
- ICRA Limited
- Credit Analysis & Research Ltd. (CARE)
- Brickwork Ratings India Pvt. Ltd.
- SMERA Ratings Limited
- Infomerics Valuation and Rating Pvt. Ltd.

SOURCE: Economic Times, SEBI and CRISIL

2. Emission norms for L7 (Quadricycle) category for BS VI notified

This notification completes the process of **BS VI** for all L, M and N category vehicles in India. The emission norms are in line with EU with WMTC cycle.

BS VI

- Cutting down on vehicular emission will result in better air quality in cities. In a bid to bring down pollution levels, the Central government has announced that from April 1, 2020, all vehicles sold in India should comply with Bharat Stage-VI, or BS-VI emission standards.
- The Bharat Stage emission standards are the legal limits on the amount of air pollutants like carbon monoxide and particulate matter that a vehicle in India can emit. These standards are targeted at making improvements in three areas -- emission control, fuel efficiency and engine design.
- **The BS norms are based on European emission norms** which, for example, are referred to in a similar manner like 'Euro 4' and 'Euro 6'.
- ❖ India is currently operating on the BS-IV emission norms. In 2016, the government made a decision to jump BS-V and implement BS-VI in the country. While automobile manufacturers are making available vehicles that comply with the new norms, oil companies will have to provide fuel that meet these standards. BS-VI standard fuel is said to be the world's cleanest fuel.
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WHY BS-VI IS BETTER

- ❖ Sulphur content in fuel is a major cause for concern. BS-VI fuel's sulphur content is much lower than BS-IV fuel. It is reduced to 10 mg/kg max in BS-VI from 50 mg/kg under BS-IV.
- This reduction makes it possible to equip vehicles with better catalytic converters that capture pollutants. However, BS-VI fuel is expected to be costlier that BS-IV fuel. Vehicles that are compliant with BS-VI will also be more expensive.
- Also, the harmful NOx (nitrogen oxides) from diesel cars can be brought down by nearly 70%. In the petrol cars, they can be reduced by 25%.

SOURCE: The Business Line and Economic Times

3. Van Dhan for Jaan and Jahaan: The Story of Shahapur's Katkari Tribe

- "Adivasi Ekatmik Samajik Sanstha" of Shahapur in Thane, markets Giloy and other products.
 Giloy is a medicinal plant with huge demand from pharmaceutical companies.
- A youth from Katkari (कातकरी) community, and his team of 10 -12 friends started facilitating various works of Katkari tribals at revenue offices at their native place.
- Katkari is one of the 75 Particularly Vulnerable Tribal Groups, as per the classification by Ministry of Home Affairs.
- There are certain tribal communities who use a pre-agricultural level of technology, face stagnant or declining population growth, and are equipped with only an extremely low level of literacy and a subsistence level of economy.
- > 75 such groups of tribal in 18 States and one Union Territory have been identified and categorized as Particularly Vulnerable Tribal Groups (PVTGs).
- > Called गुड्रची in Ayurveda, giloy is used in medicines which treat various kinds of fever (viral fever, malaria, etc.) as well as diabetes. It is used in extract form, powder form or cream.
- Pradhan Mantri Van Dhan Yojana (PMVDY) is a retail marketing led value addition plan for Minor Forest Produce (MFP), meant for forest-based tribes to optimize the tribal income, locally.
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- Under the program, MFP-based tribal groups / enterprises of around 300 members are formed for collection, value addition, packaging & marketing of Minor Forest Produces (MFPs).
- These tribal enterprises will be in the form of Van Dhan SHGs which will be a group of 15-20 members and such 15 SHG groups will further be federated into a larger group of Van Dhan Vikas Kendras (VDVKS) of around 300 members.
- TRIFED will support the VDVKs through providing them with model business plans, processing plans & tentative list of equipment for carrying out the value addition work of MFPs

Particularly Vulnerable Tribal Groups

- In 1973, the Dhebar Commission created Primitive Tribal Groups (PTGs) as a separate category, who are less developed among the tribal groups. In 2006, the Government of India renamed the PTGs as Particularly Vulnerable Tribal Groups (PVTGs).
- Among the 75 listed PVTG's the highest number are found in Odisha (13), followed by Andhra Pradesh (12), Bihar including Jharkhand (9) Madhya Pradesh including Chhattisgarh (7) Tamil Nadu (6) Kerala and Gujarat having five groups each. The remaining PVTGs live in West Bengal (3) Maharashtra (3), two each in Karnataka and Uttarakhand and one each in Rajasthan, Tripura and Manipur. All the four tribal groups in Andamans, and one in Nicobar Islands, are recognised as PVTGs.
- There is a huge variation in the number of PVTGs ranging from a few individuals as in case of Great Andamanese, Onge and Sentinelese and about a little more than a thousand people as in the case of Toda of Nilgiris. Although PVTGs are slowly witnessing decadal increase in their population, quite a few still face stagnation such as the Birhor in central India. Some are declining like the Onge and Andamanese.
- ❖ As per government notification all the 18 State Governments and the Union Territory of A&N Island shall prepare a long term "Conservation-cum-Development (CCD) Plan" for each PVTG of their State on the basis of requirement assessed through Baseline and other specific surveys conducted by them.
- ❖ A recent Anthropological Survey of India (ASI) publication has brought to the fore startling revelations about the Particularly Vulnerable Tribal Groups (PVTGs) in the country including the fact that no base line surveys have been conducted among more than half of such groups.
- ❖ Base line surveys are done to precisely identify the PVTG families, their habitat and socioeconomic status, so that development initiatives are implemented for these communities, based on the facts and figures.
- Few important articles in our constitution deals with welfare of Tribes
 - Art. 46- Promotion of Educational and Economic interests of Scheduled Castes,
 Scheduled Tribes and other weaker sections
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- Art. 243 D- Reservation of seats (in Panchayats)
- **Art. 330** Reservation of seats for Scheduled Castes and Scheduled Tribes in the House of the People
- Art. 332- Reservation of seats for Scheduled Castes and Scheduled Tribes in the Legislative Assemblies of the States
- Art. 335- Claims of Scheduled Castes and Scheduled Tribes to services and posts
- Art. 338 A- National Commission for Scheduled Tribe

SOURCE: Ministry of Tribal Affairs Website, The Hindu and Indian Heritage Portal

Pradhan Mantri Van Dhan Yojana

- The Van Dhan Scheme is an initiative of the Ministry of Tribal Affairs and TRIFED. It was launched on 14th April 2018 and seeks to improve tribal incomes through value addition of tribal products.
- The scheme will be implemented through Ministry of Tribal Affairs as Nodal Department at the Central Level and TRIFED as Nodal Agency at the National Level.
- ❖ At State level, the State Nodal Agency for MFPs and the District collectors are envisaged to play a pivot role in scheme implementation at grassroot level. Locally the Kendras are proposed to be managed by a Managing Committee (an SHG) consisting of representatives of Van Dhan SHGs in the cluster.
- ❖ It is primarily a component under the Mechanism for Marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) & Development of Value Chain.
- The scheme envisages fixation of Minimum Support Price for the selected MFPs based on the suggestions/ input received from TRIFED and declaration of MSP for selected MFPs by the Ministry of Tribal Affairs. Procurement & Marketing operation at prefixed MSP will be undertaken by the designated State Agencies.
- ❖ The Central Government will provide some portion of the working capital requirement in initial two years in the form of share capital grant & share losses, if any, in the ratio of 75:25. The Ministry of Tribal Affairs & TRIFED at national level will be strengthened optimally for implementing the Scheme.

SOURCE: Ministry of Tribal Affairs and Vikaspedia

Minor Forest Produce (MFP)

- An important source of livelihoods for tribal people are non-wood forest products, generally termed 'Minor Forest Produce (MFP)' means all non-
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- timber forest produce of plant origin and will include bamboo, canes, fodder, leaves, gums, waxes, dyes, resins and many forms of food including nuts, wild fruits, Honey, Lac, Tusser etc.
- ❖ Thus, the definition of "minor forest produce" includes bamboo and cane, thereby changing the categorization of bamboo and cane as "trees" under the Indian Forest Act 1927.
- Minor Forest Produce (MFP) is a subset of forest produce and got a definition only in 2007 when the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, was enacted.

SOURCE: Ministry of Tribal Affairs

TRIFED

- The Tribal Cooperative Marketing Development Federation of India (TRIFED) came into existence in 1987. It is a national-level apex organization functioning under the administrative control of Ministry of Tribal Affairs, Govt. of India.
- ❖ The ultimate objective of TRIFED is socio-economic development of tribal people in the country by way of marketing development of the tribal products on which the lives of tribals depends heavily as they spend most of their time and derive major portion of their income.
- ❖ TRIFED introduced the "The 4P1000 Initiative: The Tribal Perspective through Bamboonomics" in 'COP 14 UNCCD: TRIFED-GIZ event and explained the genesis of the revolution during the global meet (COP 14 of UNCCD) in New Delhi on the 13th September'19.
- The 4P1000 Initiative: The international initiative "4per1000", launched by France on 1 December 2015 at the COP 21, consists of federating all voluntary stakeholders of the public and private sectors.
- ❖ TRIFED is striving to integrate its Pradhan Mantri Van Dhan Yojna (PMVDY) with this new global environmental intervention termed as TICD (TRIFED's Initiative to Combat Desertification).
- **TRIFED proposed a business model to supplement the income** of tribal community and put it on the world scale by partnering with the German Cooperation (GIZ).
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❖ As per TRIFED 4P1000 Initiative with the tribal perspective through Bamboonomics is the best answer for combating desertification and rehabilitation of degraded wastelands.

SOURCE: TRIFED Website and PIB

4. National Gallery of Modern Art will organise virtual tour to commemorate the 115th Birth Anniversary of Ramkinkar Baij tomorrow

- Ministry of Culture's National Gallery of Modern Art will organise virtual tour titled "Ramkinkar Baij | Journey through silent transformation and expressions" to commemorate the 115th Birth Anniversary of Ramkinkar Baij on 26th May 2020.
- Ramkinkar Baij, one of the most seminal artists of modern India, was an iconic sculptor, painter and graphic artist.
- In 1925, he made his way to Kala Bhavana, the art school at Santiniketan and was *under the guidance of Nandalal Bose.*
- One of the earliest modernists in Indian art, he assimilated the idioms of the European modern visual language and yet was rooted in his own Indian ethos. He experimented restlessly with forms, moving freely from figurative to abstract and back to figurative, his themes were steeped in a deep sense of humanism and an instinctive understanding of the symbiotic relationship between man and nature.
- In 1970, the Government of India honoured him with the Padma Bhushan for his irrefutable contribution to Indian art.
- ➤ In 1976 he was made a Fellow of the Lalit Kala Akademi. In 1976, he was conferred the honorary Doctoral Degree of 'Desikottama' by Visva Bharati, and in 1979 an honorary D.Litt by Rabindra Bharati University.
- Ramkinkar made his last journey, after a period of illness, in Kolkata on the 2nd August 1980.

The Northern Limit of Monsoon (NLM)

- Southwest monsoon normally sets in over Kerala around 1st June. It advances northwards, usually in surges, and covers the entire country around 15th July. The NLM is the northern most limit of monsoon up to which it has advanced on any given day.
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- Simply, The Northern Limit of Monsoon (NLM) is the northernmost boundary of India up to which Monsoon rains have advanced on any given day.
- NLM is directly related to the onset and advance of Monsoon. The term NLM starts flowing right from the onset to the withdrawal of Monsoon.

SOURCE: IMD Website

East-west trough

- A trough is a belt of low pressure extending to large area. This trough seen during monsoon period, hence known as Monsoon trough.
- **+** Features of Monsoon Trough:
 - This trough is located in east west direction from Northwest Rajasthan till the Bay of Bengal.
 - The *height of the trough extends upto 5.8 kms upward* in the atmosphere and.
 - It tilts Southward with height due to temperature difference of 2 deg C with height.
- **The positions of the monsoon trough and the intensity** of the low affects the rainfall activity over various parts of India.

SOURCE: IMD Website

Western Disturbance

- During winter we often see sometimes that there is sharp decrease in temperature causing cold wave conditions. It is due to a low-pressure system over north known as Western Disturbance.
- ❖ Western Disturbance is an extra tropical storm, which give rain to North and Northwest India during winter. It is very useful for wheat and winter crops. It is driven by westerlies (westerlies, are prevailing winds from the west toward the east in the middle latitudes between 30- and 60-degrees latitude.)
- Skymet Weather defines Western Disturbance as "a low-pressure area or a trough over surface or the upper-air in the westerly winds regime, north of 20°N, causing changes in pressure, wind pattern and temperature fields. It is accompanied by cloudiness, with or without precipitation."
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- * Western Disturbance originate from Mediterranean Sea, Black sea and Caspian Sea. From this region and from Atlantic Ocean it collects the moisture and move eastward.
- Simply, they gradually travel across the middle east from Iran, Afghanistan and Pakistan to enter the Indian sub-continent.
- ❖ The approach of WD is characterised by rise in minimum temperature and occurrence of rainfall. But once the WD crosses a place then minimum temperature starts dropping. The formation of fog starts and slowly the cold wave occurs spreading to southwards in the country.
- Scientists are linking the unusually high number of disturbances this winter and spring to the polar vortex. The polar vortex is an area of low pressure and extremely cold air surrounding the North and South poles.
- **The polar vortex is an area of low pressure** and extremely cold air surrounding the North and South poles.
- ❖ The large-scale cyclonic activity associated with the polar vortex can trigger different circulation patterns towards the lower latitudes. Storms in the UK this winter have also been linked to the polar vortex.
- ❖ As per IMD During winter cloud and precipitation belts are seen to move from west to east over northern India. The cause of these cloud and precipitation systems came to be referred to as "western disturbances". The adjective "western" implies that the disturbances approach from the west, in contrast to most of the rain-giving systems in the principal rainy season approaching India from the east. At present the term "western disturbance" is applied to low or trough either at surface or in upper air in the region of westerly wind regime (north of 20°N) while clouds and rain are occurring. In the absence of clouds and rain it is more usual to refer to them as troughs. When two or more closed isobars at 2 mb interval can be drawn on the sea level chart, the disturbance is described as a "western depression".

SOURCE: IMD, Hindustan Times and Skymet

5. Aarogya Setu is now open source

Version 2.0 and is available on "As-Is" basis. Any reuse of the source code with changes to the code requires the developer to carry a notice of change.

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- While making the code Open Source, Government of India also seeks the developer community to help identify any vulnerabilities or code improvement in order to make Aarogya Setu more robust and secure.
- > Towards this objective, Government has also launched a Bug Bounty Programme with a goal to partner with security researchers and Indian developer community to test the security effectiveness of Aarogya Setu and also to improve or enhance its security and build user's trust.

"As-Is" basis

- ❖ A term used to describe a sales transaction in which the seller offers goods in their present, existing condition to prospective buyers.
- The term as is gives notice to buyers that they are taking a risk on the quality of the goods. The buyer is free to inspect the goods before purchase; but if any hidden defects are discovered after purchase, the buyer has no recourse against the seller. Any implied or express warranties that usually accompany goods for sale are excluded in an "as is" sale.
- Simply, Term included in sale agreements to notify the buyer that no express or implied warranty is provided. The buyer therefore takes the goods or property at his or her own risk, without recourse against the seller for their condition or performance. 'As is' translates into 'with all faults.'

SOURCE: Business dictionary and Mondaq

Bug Bounty Programme

- A bug bounty program, also called a vulnerability rewards program (VRP), is a crowdsourcing initiative that rewards individuals for discovering and reporting software bugs. Bug bounty programs are often initiated to supplement internal code audits and penetration tests as part of an organization's vulnerability management strategy.
- Many software vendors and websites run bug bounty programs, paying out cash rewards to software security researchers and white hat hackers who report software vulnerabilities that have the potential to be exploited.
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While the use of ethical hackers to find bugs can be very effective, such programs can also be controversial. To limit potential risk, some organizations are offering closed bug bounty programs that require an invitation. Apple, for example, has limited bug bounty participation to few dozen researchers.

SOURCE: Hackethon and Microsoft

6. Pradhan Mantri Matsya Sampada Yojana (PMMSY) aims to enhance fish production to 220 LMT with an investment of over Rs.20,000 crores in next five years

- The Fisheries Minister said that about 42% of the total estimated investment of the PMMSY is earmarked for creation and upgradation of fisheries infrastructure facilities. Focus areas include Fishing Harbours and Landing Centers, Post-harvest and Cold Chain Infrastructure, Fish Markets and Marketing Infrastructure, Integrated Modern Coastal Fishing Villages and Development of Deep-sea Fishing.
- Under the Swath Sagar plan, activities envisaged with a view to modernize the fisheries sector include promotion of Bio-toilets, Insurance coverage for fishing vessels, Fisheries Management Plans, E-Trading/Marketing, Fishers and resources survey and creation of National IT-based databases.
- ➤ The Government will register "Sagar Mitra" and encourage formation of Fish Farmers

 Producer Organizations (FFPOs) to help achieve the PMMSY goals. Youth will be engaged in fisheries extension by creation of 3477 Sagar Mitras in coastal fisher villages.
- PMMSY provides thrust for infusing new and emerging technologies like Re-circulatory Aquaculture Systems, Biofloc, Aquaponics, Cage Cultivation etc. to enhance production and productivity, productive utilization of wastelands and water for Aquaculture. Some activities like Mariculture, Seaweed cultivation and Ornamental Fisheries having potential to generate huge employment especially for rural women will be promoted.

Sagar Mitras

- ❖ India ranks third in fisheries production, and second in aquaculture. Fisheries alone has employed 145 million people and contributed to 1.07% of the GDP and generated export earnings of Rs 334.41 billion as per a recent estimate of National Fisheries Development Board.
- To augment it creation of 3477 Sagar Mitras and 500 Fish Farmer Producer Organisations (Fish FPOs) was announced in Union Budget 2020.
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- Budget speech referred to the blue economy and by 2022-23, the government aims to raise fish production to 200 lakh tonnes. It will also focus on growing algae, seaweed and cage culture.
- ❖ *Marine fishery boost will help the youths,* particularly in the coastal and inland areas as the government will involve youth in fisheries through Sagar Mitra scheme.
- ❖ There is a difference between traditional sea-going fisherfolk and fish farmers. The government is creating this new category of fishers as opposed to the sea-going fisherfolk.

SOURCE: Business Today, Down To Earth and Budget 2020

Farmers Producer Organizations

- ❖ A Producer Organisation (PO) is a legal entity formed by primary producers, viz. farmers, milk producers, fishermen, weavers, rural artisans, craftsmen.
- A PO can be a producer company, a cooperative society or any other legal form which provides for sharing of profits/benefits among the members. In some forms like producer companies, institutions of primary producers can also become member of PO.
- On the recommendations of an expert panel led by Y.K. Alagh, Centre had amended the Indian Companies Act, 1956, in 2002-03 to provide for "producer companies".
- A Farmer Producer Company is a hybrid between cooperative societies and private limited companies.
- The concept of FPOs is being introduced in the fisheries sector in 2017.
- **Small Farmers' Agribusiness Consortium (SFAC)** is providing support for promotion of FPOs.

SOURCE: UNI, SFAC Website and Financial Express

7. CSIR-IIIM & Reliance Industries Limited (RIL) to develop RT-LAMP based test for Coronavirus

- > Since testing is vital component in COIVD-19 mitigation, CSIR-IIIM, Jammu a constituent laboratory of CSIR has partnered with Reliance Industries Limited (RIL) to develop and scale-up a new Reverse Transcriptase-Loop Mediated Isothermal Amplification (RT-LAMP) based
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COVID-19 diagnostic kit for which a formal MOU has also been signed between CSIR-IIIM, Jammu and RIL.

- > COVID-19 RT-LAMP test is a nucleic acid-based test carried out from nasal/throat swab sample from patients. The test recipe has been developed and successfully demonstrated using synthetic templates.
- > It is rapid (45-60 min), cost effective and accurate test. It has been tested with a small number of patient's samples and validating the kit on a greater number of patient samples is planned and will be done together with RIL.

Reverse Transcriptase-Loop Mediated Isothermal Amplification

- ❖ The RT-LAMP technology, which has remarkably high amplification efficiency, realizes highly sensitive detection of specific nucleotide sequences in about 1 hour. The sensitivity of RT-LAMP is 10−1,000 times higher than that of conventional gelbased RT-PCR, and equivalent to real-time RT-PCR.
- Loop-mediated isothermal amplification (LAMP) is a novel method that can rapidly amplify a specific nucleic acid with high specificity under isothermal conditions with the use of 4 to 6 specifically designed primers.
- The LAMP reaction process has no denaturation step, which is different from conventional polymerase chain reaction (PCR), and DNA amplification.
- So far, the LAMP method has been applied to the detection of various microbes and pathogens in environmental, food, and clinical samples, including protozoa, bacteria, and viruses.
- **Earlier, RT-LAMP is used for ZIKV (Zika Virus) detection** in various biological samples within 30 min, without first isolating the RNA from the sample.

SOURCE: Medical Journals and Research papers

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All India Radio (AIR--News From 24th May to 26th May 2020)

SPECIFIC AIR NEWS NOT COVERED ABOVE

1. Heat wave conditions continue in North west and Central India

India Meteorological Department, IMD has said that Northwest and Central parts of the country continue to remain under the grip of *heat wave* conditions.

Heat wave

- * Heat waves happen when a system of high atmospheric pressure moves into an area. This high-pressure system forms what is best described as a "cap" over the region trapping heat that would otherwise escape into the atmosphere where it would otherwise cool off before coming back down to the surface.
- **This environment of minimal heat circulation also reduces the chance of precipitation** and rain, causing the heat to build up, which we experience as a heat wave.
- ❖ Heatwaves occur over India between March and June. Meteorologists declare a heatwave event when the maximum (day) temperature for a location in the plains crosses 40 degrees Celsius. Over the hills, the threshold temperature is 30 degrees Celsius. When the day temperature jumps by 4 to 5 degrees above the normal maximum temperature of a location, it is declared as a heatwave.
- ❖ For example, if the normal maximum temperature for a location in the plains on a given day should be 40 degrees but records 45 degrees, then that location is experiencing a heatwave. Alternatively, any location where maximum temperature crosses 45 degrees or shows a departure of over 6 degrees from normal, it is a severe heatwave condition.
- Heatwaves are common over the Core Heatwave Zone (CHZ) Rajasthan, Punjab, Haryana, Chandigarh, Delhi, West Madhya Pradesh, Uttar Pradesh, Chhattisgarh, Orissa, Vidarbha in Maharashtra, parts of Gangetic West Bengal, Coastal Andhra Pradesh and Telangana, as categorised by India Meteorological Department.

SOURCE: Indian Express, NOAA and Financial Express

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2. Govt to restart regional air connectivity services under UDAN scheme

Civil Aviation ministry has said that all operational routes up to 500 km stage length, all operational helicopter routes and routes with no viability gap funding will be permitted to resume operations. Selected airline operators will also be allowed to operationalize the awarded routes under the UDAN scheme, including seaplanes on the permitted routes.

Viability gap funding

- Cabinet Committee on Economic Affairs (CCEA) in its meeting of July 25, 2005 approved the Scheme for support to Public Private Partnerships in Infrastructure.
- ❖ The Scheme for Financial Support to PPPs in Infrastructure (Viability Gap Funding scheme) of the Government of India is administered by the Ministry of Finance and provides financial support in the form of grants, one time or deferred, to infrastructure projects undertaken through PPPs with a view to make them commercially viable.
- Simply, it means a grant one-time or deferred, provided to support infrastructure projects that are economically justified but fall short of financial viability.
- ❖ The lack of financial viability usually arises from long gestation periods and the inability to increase user charges to commercial levels.
- Government of India has notified a scheme for Viability Gap Funding to infrastructure projects that are to be undertaken through Public Private Partnerships. It will be a Plan Scheme to be administered by the Ministry of Finance with suitable budgetary provisions to be made in the Annual Plans on a year-to- year basis.
- The quantum of VGF provided under this scheme is in the form of a capital grant at the stage of project construction. The amount of VGF will be equivalent to the lowest bid for capital subsidy, but subject to a maximum of 20% of the total project cost. In case the sponsoring Ministry/State Government/ statutory entity propose to provide any assistance over and above the said VGF, it will be restricted to a further 20% of the total project cost.
- Viability Gap Funding up to Rs. 100 crores (Rupees one hundred crore) for each project may be sanctioned by the empowered Institution, subject to the
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budgetary ceilings indicated by the Finance Ministry. Empowered Institution will also consider other proposals and place them before the Empowered Committee.

SOURCE: DEA Website and Arthapedia

3. India is committed to partner with friends like Sri Lanka in making economic recovery amidst COVID crisis

India is committed to partner with friends like Sri Lanka in making economic recovery amidst COVID crisis, as part of its *neighbourhood first policy*.

Neighbourhood first policy

- Policy of Govt of India towards neighbours is encapsulated in the *phrase*, 'Neighbors First'.
- After the general elections last year, PM Modi's first foreign visit was to the Maldives in June 2019, to establish warm and friendly relations with President Ibrahim Solih, who has done much to promote closer relations with India through his "India First Policy".
- The inauguration during Modi's visit of two projects worth Rs 180 crore the Coastal Surveillance Radar System and the Composite Training Center of the Maldivian National Defence Forces has deep significance for the success of India's neighbourhood policy.
- **The agreement to restart the tri-lateral DOSTI naval exercise** as also the tri-lateral NSA-level dialogue between India, Maldives and Sri Lanka hold importance.
- The India-Bhutan friendship runs deep, with growing cooperation in the vital hydro-power sector providing it a fresh impetus. Notably, the centrepiece Mangdechhu project (750 MW) was completed on schedule last year.
- When India shortly hands over to Myanmar the INS Sindhuvir, a Kilo Class submarine, it will propel security cooperation to a higher pedestal.
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- India's focus on BIMSTEC and its Act East Policy have served to highlight India's key role in promoting cooperative growth and development in several parts of South Asia.
- Demarcation of our external boundaries is yet to be completed, partly due to historical reasons.
- External boundary around Jammu and Kashmir not having been demarcated. It has also not been possible to agree on the border with China since China is laying unreasonable claims on territories that have historically been India. The unsettled boundaries pose major problems.
- Demarcation of two short segments of our boundary with Nepal Kala Pani and Susta – is yet to be completed. Of these, Kala Pani is strategically important, since it will determine the tri-junction between India, Nepal and China.
- ❖ Eastern and Western extremities of our boundary with Bhutan have not been agreed upon since the location of the tri-junction with China is yet to be fixed.

SOURCE: MEA Website and Indian Express

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SUMMARY AND RELEVANT TERMS EXPLAINED FROM PIB AND AIR

DATED: 27-05-2020 TO 29-05-2020



Public Information Bureau (PIB-- News From 27th May to 29th May 2020)

1. Tejas FOC aircraft handed over to the IAF

- > The Indian Air Force (IAF) inducted Tejas Mk-1 FOC aircraft into the recently resurrected number 18 Sqn, the "Flying Bullets" at Air Force Station Sulur, marking yet another important step towards enhancing the operational capability of the Air Force.
- The **Squadron** is the first in the IAF to induct this platform. This is also an important milestone in the country's indigenous fighter aircraft program and a significant boost to the 'Make In India' initiative.
- > **Tejas Mk-1 FOC is a** single engine, light weight, highly agile, all weather multi role fighter aircraft capable of air-to-air refuelling thus making it a truly versatile platform.

2. Finance Minister attended Special Board of Governors meeting of New Development Bank through video-conference

- The agenda included the election of next President of NDB, appointment of Vice-President and Chief Risk Officer and membership expansion.
- ➤ Mr. K. V Kamath, the outgoing President of NDB was appreciated for his stellar stewardship in very quickly giving shape to the vision stated by the BRICS Leaders in 2014.
- Newly elected President Mr. Marcos Troyjo is from Brazil and newly appointed Vice President and CRO, Mr Anil Kishora is from India.
- The focus is to achieve the twin objective of preserving BRICS values and growing NDB into a global development institution.

NDB (New Development Bank)

- At the fourth BRICS Summit in New Delhi (2012), the leaders of Brazil, Russia, India, China and South Africa considered the possibility of setting up a new Development Bank to mobilize resources for infrastructure and sustainable development projects in BRICS and other emerging economies, as well as in developing countries.
- ❖ During the sixth BRICS Summit in Fortaleza (2014), the leaders signed the Agreement establishing the New Development Bank (NDB).

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- ❖ In the Fortaleza Declaration, the leaders stressed that the NDB will strengthen cooperation among BRICS and will supplement the efforts of multilateral and regional financial institutions for global development, thus contributing to collective commitments for achieving the goal of strong, sustainable and balanced growth.
- "The Bank shall have an initial authorized capital of US\$ 100 billion. The initial subscribed capital shall be US\$ 50 billion, equally shared among founding members. The first chair of the Board of Governors shall be from Russia. The first chair of the Board of Directors shall be from Brazil. The first President of the Bank shall be from India. The headquarters of the Bank shall be located in Shanghai. The New Development Bank Africa Regional Center shall be established in South Africa concurrently with the headquarters"- (Fortaleza Declaration).
- ❖ The inaugural meeting of the Board of Governors of the NDB was chaired by Russia and held on the eve of the Ufa Summit on 7 July 2015, when the Bank formally came into existence as a legal entity. During the meeting, the appointment of the President, Mr. K.V. Kamath, as well as four Vice Presidents and the Board of Directors took place.
- At the signing of the Headquarters Agreement with the government of the People's Republic of China and the Memorandum of Understanding with the Shanghai Municipal People's Government on 27 February 2016, the NDB became fully operational.
- Bank's Articles of Agreement specify that all members of the United Nations could be members of the bank, however the share of the BRICS nations can never be less than 55% of voting power.

SOURCE: NDB Website

BRICS

- * BRICS is an informal group of states comprising the Federative Republic of Brazil, the Russian Federation, the Republic of India, the People's Republic of China and the Republic of South Africa.
- ❖ BRICS is an important Grouping bringing together the major emerging economies from the world, comprising 42% of the world population, having 23% of the world GDP and over 16% share in the world trade.
- On 16 May 2008, Yekaterinburg hosted Meeting of BRICS Foreign Ministers on the initiative of Russia. After the meeting, a Joint Communique was issued, reflecting common stances on topical global development issues.
- On the Russian initiative on 16 June 2009, Yekaterinburg hosted the first BRIC Summit. BRIC Leaders issued a joint statement after the Summit.
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- BRICS countries are influential members of leading international organisations and agencies, including the UN, the G20, the Non-Aligned Movement and the Group of 77. They are also members of various regional associations.
- The Russian Federation is a member of the Commonwealth of Independent States, the Collective Security Treaty Organisation and the Eurasian Economic Union.
- Russia and China are members of the Shanghai Cooperation Organisation and the Asia Pacific Economic Cooperation.
- ❖ Brazil is a member of the Union of South American Nations, MERCOSUR and the Community of Latin American and Caribbean States.
- The Republic of South Africa is a member of the African Union and the Southern African Development Community.
- India is a member of the South Asian Association for Regional Cooperation.
- * Relations between BRICS partners are built on the UN Charter, generally recognised principles and norms of international law and the following principles, which were agreed by member countries at their 2011 Summit: openness, pragmatism, solidarity, non-bloc nature and neutrality with regard to third parties.
- In 2016, India became the head of the Association. The BRICS presidency in 2017 were transferred to China, in 2018 to South Africa, in 2019 to Brazil and in 2020 to Russia.

SOURCE: BRICS and MEA Website

3. NHAI gears up to keep National Highways in good condition before monsoon

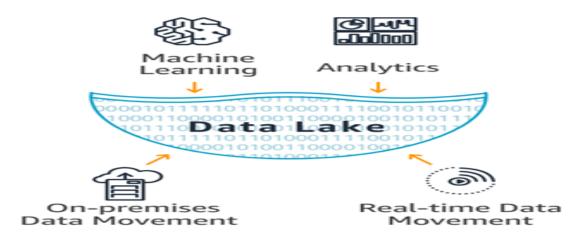
▶ NHAI HQ will be monitoring the progress closely through its *Project Management Software* − *Data Lake* where pictures of before and after repair works would be uploaded, apart from other repair related information.

Data Lake

❖ A data lake is a centralized repository that allows you to store all your structured and unstructured data at any scale. You can store your data as-is, without having to first structure the data, and run different types of analytics—from dashboards and visualizations to big data processing, real-time analytics, and machine learning to guide better decisions.

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- ❖ **Simply,** A Data Lake is a storage repository that can store large amount of structured, semi-structured, and unstructured data. It is a place to store every type of data in its native format with no fixed limits on account size or file. It offers high data quantity to increase analytic performance and native integration.
- The Data Lake democratizes data and is a cost-effective way to store all data of an organization for later processing. Research Analyst can focus on finding meaning patterns in data and not data itself.
- **There is no data silo structure.** So, Data Lake gives 360 degrees view of customers and makes analysis more robust.

DIFFERENCE BETWEEN DATA LAKE AND DATA WAREHOUSE:

Characteristics	Data Warehouse	Data Lake
Data	Relational from transactional systems,	Non-relational and relational
	operational databases, and line of business	from IoT devices, web sites,
	applications	mobile apps, social media,
		and corporate applications
Schema	Designed prior to the DW implementation	Written at the time of
	(schema-on-write)	analysis (schema-on-read)
Price/Performance	Fastest query results using higher cost	Query results getting faster
	storage	using low-cost storage
Data Quality	Highly curated data that serves as the	Any data that may or may
	central version of the truth	not be curated (ie. raw data)
Users	Business analysts	Data scientists, Data
		developers, and Business
		analysts (using curated data)
Analytics	Batch reporting, BI and visualizations	Machine Learning, Predictive
		analytics, data discovery and
		profiling

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SOURCE: Amazon Web service and McKINSEY

- 4. Researchers find a new possibility to improve rice productivity
 - In Southeast Asia, where rice is consumed more than in the other part of the world, it accounts for more than 75% of the calorie intake.
 - > India has the largest area under rice crop cultivation: almost all States grow rice. However, it suffers from a problem of low productivity.
 - > Traits like number of grains per plant and weight of the grain mainly determine the yield in rice. Thus, one of the main aims of the researchers and breeders has been to develop superior rice varieties with heavier grains, which can give higher yield and better nutrition.
 - The scientists conducted their study by sequencing the genomes of *four Indian genotypes* (*LGR*, *PB 1121*, *Sonasal & Bindli*) that show contrasting phenotype in seed size/weight. After analysing their genomic variations, they found that the Indian rice germplasms had much more *genomic diversity* than that estimated so far.
 - Most of the modern cultivated rice varieties belong to japonica and indica genotypes

Genomic diversity

- **Each individual species possesses genes** which are the source of its own unique features: In human beings, for example, the huge variety of people's faces reflects each person's genetic individuality. The term genetic diversity also covers distinct populations of a single species, such as the thousands of breeds of different dogs or the numerous varieties of roses.
- International conservation policy recognizes biodiversity at three levels, ecosystem, species and genetic, and that management should aim to retain all three (Convention on Biological Diversity, 2007). This is clearly reflected in the Convention on Biological Diversity, Aichi Biodiversity Targets, agreed in 2010, where there is specific reference in goals and targets, not only to ecosystems and species, but also to genetic diversity.

What is the significance of genetic diversity?

- The huge variety of different gene sets also define an individual or a whole population's ability to tolerate stress from any given environmental factor.
- ❖ While some individuals might be able to tolerate an increased load of pollutants in their environment, others, carrying different genes, might suffer from infertility or even die under the exact same environmental conditions. Whilst the former will continue to live in the environment the latter will either have to leave it or die. This process is called natural
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selection and it leads to the loss of genetic diversity in certain habitats. However, the individuals that are no longer present might have carried genes for faster growth or for the ability to cope better with other stress factors.

How do human activities affect genetic diversity?

- Any change in the environment natural or human induced causes a selection of events that only the fittest survive.
- ❖ Anthropogenic impact is particularly apparent in the coastal zone and increases the number of changes occurring to individual and populations. *Such pressure is exerted by*
 - artificial selection (harvesting, aquaculture)
 - degradation of habitats (leading to a reduction of total stocks and thus increasing the likeliness of inbreeding) and
 - the release of farmed fish into the wild. These activities reduce the sum of genes available, thus leaving behind a population that is less capable of tolerating any further natural or anthropogenically caused changes in environment.
- These activities reduce the sum of genes available, thus leaving behind a population that is less capable of tolerating any further natural or human disturbances in environment.

Why prevent the loss of genetic diversity?

- The loss of genetic diversity is difficult to see or measure. In contrast, the reduction and extinction of populations is far easier to see. Extinction is not only the loss of whole species but is also preceded by a loss of genetic diversity within the species.
- This loss reduces the species ability to perform its inherent role in the whole ecosystem.
- Furthermore, the loss of genetic diversity within a species can result in the loss of useful and desirable traits (e.g. resistance to parasites). Reduced diversity may eliminate options to use untapped resources for food production, industry and medicine.

SOURCE: Biodiversity Website and Newspapers

5. Ministry of Tourism holds its 24th webinar titled 'Culture & Tourism- Two sides of Goan economy' under Dekho Apna Desh Series

- Webinar session allowed a peek into Goa's history, from the times of the Kadamba kingdom to Vijayanagara Empire, Bahmani Sultanate and Bijapur Sultanate during the medieval period and till the *Portuguese invasion of Goa defeating the Bijapur Sultanate*.
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- > The presence of marine fossils buried seashells and other features of topography in the Coastal belt indicate that **Goa has been uplifted from the sea due to geological tectonic plate movement.**
- The story trails of some of the heritage architecture like *Safamasjid*, *Convent of St. Monica*, *Archbishops cathedral*, *Basilica of Goa*, *Deshprabhu palace*, *Soundekar Palace built by the Portuguese*, *Deao Palace*, *TB Cunha Mansion*, *Solar Colacos house*, *Panjim Church* are not only interesting but also an insight to Goan history.

Tectonic plate movement

- **The Earth's lithosphere**, which includes the crust and upper mantle, is made up of a series of pieces, or tectonic plates, that move slowly over time.
- ❖ The plates make up Earth's outer shell, called the lithosphere. (This includes the crust and uppermost part of the mantle.) Churning currents in the molten rocks below propel them along like a jumble of conveyor belts in disrepair. Most geologic activity stems from the interplay where the plates meet or divide.
- The movement of the plates creates three types of tectonic boundaries: convergent, where plates move into one another; divergent, where plates move apart; and transform, where plates move sideways in relation to each other.
- ❖ A divergent boundary occurs when two tectonic plates move away from each other. Along these boundaries, earthquakes are common and magma (molten rock) rises from the Earth's mantle to the surface, solidifying to create new oceanic crust.
- When two plates come together, it is known as a convergent boundary. The impact of the colliding plates can cause the edges of one or both plates to buckle up into a mountain ranges or one of the plates may bend down into a deep seafloor trench. A chain of volcanoes often forms parallel to convergent plate boundaries and powerful earthquakes are common along these boundaries.
- ❖ At convergent plate boundaries, oceanic crust is often forced down into the mantle where it begins to melt. Magma rises into and through the other plate, solidifying into granite, the rock that makes up the continents. Thus, at convergent boundaries, continental crust is created, and oceanic crust is destroyed.
- Two plates sliding past each other forms a transform plate boundary. Natural or human-made structures that cross a transform boundary are offset—split into pieces and carried in opposite directions. Rocks that line the boundary are
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pulverized as the plates grind along, creating a linear fault valley or undersea canyon. Earthquakes are common along these faults. In contrast to convergent and divergent boundaries, crust is cracked and broken at transform margins, but is not created or destroyed.

SOURCE: NOAA and National Geographic

Delimitation commission

- **Delimitation literally means** the act or process of fixing limits or boundaries of territorial constituencies in a country or a province having a legislative body.
- **The job of delimitation is assigned** to a high-power body. Such a body is known as Delimitation Commission or a Boundary Commission.
- **Simply, Delimitation is the process of** fixing limits or boundaries of territorial constituencies in a country or a province with a legislative body.
- ❖ In India, such Delimitation Commissions have been constituted 4 times in 1952 under the Delimitation Commission Act, 1952, in 1963 under Delimitation Commission Act, 1962, in 1973 under Delimitation Act, 1972 and in 2002 under Delimitation Act, 2002.
- ❖ A Delimitation Commission was set up under the Delimitation Act, 2002 to readjust the division of each state and union territory into territorial constituencies for the purpose of Lok Sabha and state assembly elections *on the basis of census figures of 2001*.
- The Delimitation Commission in India is a high-power body whose orders have the force of law and cannot be called in question before any court. These orders come into force on a date to be specified by the President of India in this behalf.
- The copies of its orders are laid before the House of the People and the State Legislative Assembly concerned, but no modifications are permissible therein by them.
- Recently the government constituted a Delimitation Commission, to be headed by former Supreme Court judge Ranjana Prakash Desai, to redraw Lok Sabha and assembly constituencies of the Union Territory Jammu and Kashmir and the north-eastern states of Assam, Arunachal Pradesh, Manipur and Nagaland.
- ❖ The Commission will delimit the constituencies of Jammu and Kashmir in accordance with the provisions of the Jammu and Kashmir Reorganisation Act, and of Assam, Arunachal Pradesh, Manipur and Nagaland in accordance with the provisions of the Delimitation Act, 2002.

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SOURCE: ECI and Economic Times

Financial Stability and Development Council (FSDC)

- ❖ With a view to strengthening and institutionalizing the mechanism for maintaining financial stability, enhancing inter-regulatory coordination and promoting financial sector development, the Financial Stability and Development Council (FSDC) was set up by the Government as the apex level forum in December 2010. (As per Raghuram Rajan Committee)
- The Chairman of the Council is the Finance Minister and its members include the heads of financial sector Regulators (RBI, SEBI, PFRDA, IRDA & FMC) Finance Secretary and/or Secretary, Department of Economic Affairs, Secretary, Department of Financial Services, and Chief Economic Adviser.
- An apex-level FSDC is not a statutory body. No funds are separately allocated to the council for undertaking its activities.
- Without prejudice to the autonomy of regulators, the Council monitors macro prudential supervision of the economy, including functioning of large financial conglomerates, and addresses inter-regulatory coordination and financial sector development issues. It also focuses on financial literacy and financial inclusion.

SOURCE: FSDC Website and Newspaper

6. Ultraviolet Disinfection Facilities Developed at Western Naval Command

- > The facility utilises UV-C light source for Germicidal Irradiation towards sterilising items. Studies by reputed research agencies have proven the effect of UV-C on respiratory pathogens like SARS, Influenza etc.
- It has been observed that microbial pathogens become significantly less viable when exposed to UV-C of intensity 1 J/cm2 for 1 min or more, indicating effective sterilisation.

UV-C

❖ The three types of UV radiation are classified according to their wavelength. They differ in their biological activity and the extent to which they can penetrate the skin. The shorter the wavelength, the more harmful the UV radiation. However, shorter wavelength UV radiation is less able to penetrate the skin.

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- **Short-wavelength UVC is the most damaging type of UV radiation.** However, it is completely filtered by the atmosphere and does not reach the earth's surface.
- UV light with wavelengths less than 290nm are considered to have "germicidal" properties, meaning it can kill germs. This kind of light is commonly used to kill microbes on surfaces, in air, and in water.
- According to Centers for Disease Control (CDC), "UV can kill all bacteria, including drugresistant bacteria because UV light is actually attacking the DNA and RNA of microbes. While the amount of UV needed to kill a microbe may vary as there is a relationship between the size of DNA molecules and the effect of UV radiation, there have been no reports of microbes demonstrating an ability to build an immunity to light-based methods."
- ❖ UVGI (ultraviolet germicidal irradiation) is a method of disinfection that uses short wavelength ultraviolet light (UV-C) to inactivate or kill microorganisms and pathogens. Essentially, UVGI is the use of UV light with sufficiently short wavelengths to disinfect surfaces, air, and water.
- ❖ Simply, UV light, also known as ultraviolet germicidal irritation (UVGI), comprises a segment of the electromagnetic spectrum between 400 and 100 nm. The UV segment has different sections, labeled UV-A (400 to 315 nm), UV-B (315 to 280 nm) and very high energy and destructive UV-C (280 to 200 nm).
- Unlike the UV-A and UV-B wavelengths, the UV-C band has more than twice the electron volt energy (eV) as UV-A, and it is well absorbed (not reflected) by organic substances, adding to its destructiveness.
- This power allows UV-C to break through an organism on a cellular level, effectively scrambling its DNA. UV-C's effects on the human body vary depending on length of exposure but can cause painful burns on the skin. It can also cause temporary damage to the cornea if observed directly. Aside from these threats, UV-C is a known carcinogen for human skin.

SOURCE: WHO and UVR

7. ADB, India sign \$177 million loan for state road improvements in Maharashtra

➤ ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 68 members—49 from the region.

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ADB (Asian Development Bank)

- Founded in 1966, the Asian Development Bank's (ADB) headquarters are in Manila, Philippines.
- The Asian Development Bank's primary mission is to foster growth and cooperation among countries in the Asia-Pacific Region.
- It has been responsible for a number of major projects in the region and raises capital through the international bond markets. The ADB also relies on member contributions, retained earnings from lending, and the repayment of loans for funding of the organization.
- The two largest shareholders of the Asian Development Bank are the United States and Japan.
- The ADB provides assistance to its developing member countries, the private sector, and public-private partnerships through grants, loans, technical assistance, and equity investments to promote development.

SOURCE: ABD Website

8. Index of eight core industries (base: 2011-12=100) for April, 2020

- The Office of Economic Adviser, Department for Promotion of Industry and Internal Trade is releasing Index of Eight *Core Industries* for the Month of April 2020.
- The *growth rate of Index of Eight Core Industries for April 2020 declined* by 38.1% (provisional) compared to decline of 9 percent (provisional) previous month of March 2020.
- ➤ In view of nationwide lockdown during April 2020 due to COVID-19 pandemic, various industries viz. Coal, Cement, Steel, Natural Gas, Refinery, Crude Oil etc experienced substantial loss of production.
- Final growth rate of Index of Eight Core Industries for January'2020 remains unchanged at 2.2%. The Eight Core Industries comprise 40.27 per cent of the weight of items included in the Index of Industrial Production (IIP).

Index of Industrial Production (IIP)

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- The Index of Industrial Production (IIP) is an index which shows the growth rates in different industry groups of the economy in a stipulated period of time.
- The IIP index is computed and published by the Central Statistical Organisation (CSO) on a monthly basis.
- IIP is a composite indicator that measures the growth rate of industry groups classified under:
 - Broad sectors, namely, Mining, Manufacturing and Electricity
 - Use-based sectors, namely Basic Goods, Capital Goods and Intermediate Goods.
- ❖ IIP is a key economic indicator of the manufacturing sector of the economy. *IIP index is currently calculated using 2011-2012 as the base year.*
- Electricity, crude oil, coal, cement, steel, refinery products, natural gas, and fertilisers are the eight core industries that comprise about 40 percent of the weight of items included in the Index of Industrial Production.
- The data is also used to compile the Gross Value Added (GVA) of the manufacturing sector in the Gross Domestic Product (GDP).
- **The CSO uses secondary data to reach the monthly IIP number.** The data is sourced from various agencies in different ministries or departments of the government.

IIP vs ASI

• While the IIP is a monthly indicator, the Annual Survey of Industries (ASI) is the prime source of long-term industrial statistics. The ASI is used to track the health of the industrial activity in the economy over a longer period. The index is compiled out of a much larger sample of industries compared to IIP.

SOURCE: Ministry of Statistics and Programme Implementation (MoSPI) and Financial Express

9. United Nations Award to Indian Army Officer Major Suman Gawani

Major Suman Gawani, an Indian Army officer who served as a women peacekeeper with the United Nations Mission in South Sudan (*UNMISS*) in 2019 is being awarded the prestigious "United Nations Military Gender Advocate of the year Award" on 29 May 2020.

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UNMISS

- Almost 20,000 peacekeepers serve with the United Nations Mission in South Sudan to protect civilians and build durable peace in the conflict-affected country.
- The civilian, police and military personnel from 73 countries carry out many duties under the mandate provided by the United Nations Security Council. Their work falls under four main pillars.
- ❖ **Protection of Civilians:** Peacekeepers actively patrol in communities across the country to deter violence and provide a protective presence with a particular focus on areas that displaced people are returning to in the wake of the peace deal.
- Creating conditions conducive to the delivery of humanitarian assistance: UNMISS peacekeepers work to ensure that humanitarian aid, such as food, clean water, shelter and healthcare, reaches millions of people in need across South Sudan.
- Supporting the implementation of the revitalized agreement and the peace process: The Mission is committed to helping build durable peace in South Sudan. It does this by working as an impartial partner at the national and subnational level with political, religious, traditional and community leaders as well as with communities and individuals.
- Monitoring and investigating human rights: The Mission monitors, investigates, verifies and reports on violations and abuses of human rights and international humanitarian law, including those that may amount to war crimes or crimes against humanity.

SOURCE: UNMISS Website

10. Missile Park 'Agneeprastha' to be set up at INS Kalinga

- In keeping with the initiative of Govt of India to promote Solar Power and objective to achieve 100 GW of solar power by 2022 as part of the *National Solar Mission*, a 2 MW Solar Photovoltaic Plant was commissioned at INS Kalinga.
- > INS Kalinga has taken significant strides in Green Initiatives since it's setting up in the early 1980s, including afforestation, numerous plantation drives, coastal clean-up drives and protection of the Geo-Heritage site "Erra Matti Dibbalu".
- 'AGNEEPRASTHA' aims to capture glimpses of Missile History of INS Kalinga since 1981 till date. The Missile Park has been set up with a replica of missiles and Ground Support Equipment (GSE) that showcase the evolution of missiles handled by the unit.
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Geo-Heritage

- **!t generic but descriptive term** applied to sites or areas of geologic features with significant scientific, educational, cultural, or aesthetic value.
- Scientifically and educationally significant geoheritage sites include those with textbook geologic features and landscapes, distinctive rock or mineral types, unique or unusual fossils, or other geologic characteristics that are significant to education and research.
- **Culturally significant** geoheritage sites are places where geologic features or landscapes played a role in cultural or historical events.
- ❖ Aesthetically significant geoheritage sites include landscapes that are visually appealing because of their geologic features or processes. Many geoheritage sites can be tourist destinations and provide local and regional economic benefits.
- "Geoheritage sites serve the public interest. Such sites are critical to advancing knowledge about natural hazards, groundwater supply, soil processes, climate and environmental changes, evolution of life, mineral and energy supplies, and other aspects of the nature and history of Earth. Such sites have high potential for scientific studies, use as outdoor classrooms, enhancing public understanding of science, recreational use, and economic support to local communities.
- IUCN's interest in geodiversity management and in geoheritage conservation known as geoconservation.

SOURCE: Geological Survey of America and IUCN

- 11. Researchers culture novel coronavirus, may help in drug testing and vaccine development
 - > The Centre for Cellular and Molecular Biology (CCMB) has **established stable cultures of coronavirus (SARS-CoV-2) from patients' samples.**
 - For the development of antibodies or antidots, virus cultures are important. Inactivated viruses can trigger antibody response in other mammalian hosts in addition to humans. Various such hosts are currently under test for their efficiency of antibody response. Such antibodies generated in these non-human hosts can be purified, processed and collected.
 - The antibodies can be used as therapeutic intervention for patients suffering from the infection. Such antibodies can trigger antiviral response upon injection into humans and have the potential of limiting the infection. Administering antibodies does not provide immunity like a vaccine does but can be considered as anti-dotes against the virus.
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12. Ministry of Tourism conducts its 25th webinar titled 'Northeast India for the immersive traveller' under Dekho Apna Desh Series

- Some of the wonders and experiences that North East India offers to travellers which were show cased in this session of webinar included *Dzukou valley situated between Manipur* and Nagaland which is the crater base of an extinct volcano and most famous *Dzukoulily is* found only in this region.
- > The Hornbill festival annually celebrated from 1st of December to 10th of December in Kohima has become a big attraction for both domestic and foreign tourists leading to the development of tourist amenities in Nagaland.
- ➤ The option that the largest north eastern state, Arunachal Pradesh offers to tourist was well covered by the presenters. The state with its 70% forest cover and home to 26 major tribes, gives an opportunity to the traveller to experience new culture, tradition and dialects after every few kilometres.
- > The beauty of Tawang, Sangti valley which allows the visitors to experience fairy-tale views and Losar festival which is celebrated in February were highlighted.

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All India Radio (AIR--News From 27th May to 29th May 2020)

SPECIFIC AIR NEWS NOT COVERED ABOVE

1. Ministry of Tribal Affairs announces inclusion of 23 additional MFP items in MSP list

➤ The decision enhancing the coverage from 50 to 73 items comes in view of the COVID-19 pandemic so that much needed support could be provided to the tribal *MFP* gatherers.

Minor Forest produce (MFP)

- An important source of livelihoods for tribal people are non-wood forest products, generally termed 'Minor Forest Produce (MFP)' means all non-timber forest produce of plant origin and will include bamboo, canes, fodder, leaves, gums, waxes, dyes, resins and many forms of food including nuts, wild fruits, Honey, Lac, Tusser etc.
- ❖ The Government of India has launched a central sector scheme for marketing of Minor Forest Produce through Minimum Support Price (MSP) and development of value chain to ensure fair monetary returns to MFP gatherers.
- The scheme envisages fixation and declaration of Minimum Support Price for the selected MFP based on the suggestions /inputs received from Tribal Cooperative Marketing Development Federation of India(TRIFED) which came into existence in 1987, and the States concerned.
- States have been given freedom for fixing MSP 10% above or below the MSP rate decided by Ministry of Tribal Affairs.
- (TRIFED), a government body under MoTA meant to facilitate socio-economic development of tribal people by marketing tribal products.
- The ministry added these items, raising the total number of MFPs covered under the list to 49.
- PESA, 1996 and Recognition of Forest Rights Act, 2006 conferred ownership of MFP to forest dwellers.
- ISRO Satellite imagery based resource mapping commenced to further identify and pin point pan-India availability of MFPs.

SOURCE: TRIFED Website, PIB, Down to Earth and newspapers

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SUMMARY AND RELEVANT TERMS EXPLAINED FROM PIB AND AIR

DATED: 30.05.2020 TO 01.06.2020



Public Information Bureau (PIB-- News From 30th May to 01st June 2020)

1. Piyush Goyal interacts with Pharmaceutical industry and Associations

- The country should become Aatmanirbhar *in APIs* as early as possible; government has taken a number of steps in this regard.
- It has already *approved the scheme on Promotion of Bulk Drug Parks* for financing Common Infrastructure Facilities in 3 *Bulk Drug Parks*.
- Also, *Production Linked Incentive Scheme for promotion* of domestic manufacturing of critical KSMs (Key Starting Material)/Drug Intermediates and APIs in the country has been given a go ahead.

Active pharmaceutical ingredient (API)

- "A substance used in a finished pharmaceutical product (FPP), intended to furnish pharmacological activity or to otherwise have direct effect in the diagnosis, cure, mitigation, treatment or prevention of disease, or to have direct effect in restoring, correcting or modifying physiological functions in human beings."----WHO
- ❖ Any drug or medication is composed of two components. The first is the API which is the central ingredient. The second is known as the excipient, which is the inactive substance that serves as the vehicle for the API itself. If the drug is in a syrup form, then the excipient is the liquid that has been used to make it as such.
- The moment an API is mixed with another API, or with an excipient, it is no more considered an API.
- APIs are commonly referred to as 'bulk pharmaceuticals' and are in fact usually made in places at quite a distance to where tablets, suspensions and liquids are manufactured. Today, the greatest concentrations of API manufacturers are located around Asia, specifically in India and China.
- ❖ APIs are generally manufactured through a variety of processes that include:
 - Chemical synthesis
 - Fermentation processes
 - Recombinant DNA
 - Isolation and recovery from natural sources
 - A combination of these processes

SOURCE: WHO and MDTV alliance

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Bulk Drug Parks

- Bulk drug and medical devices park schemes are not new and were first suggested in February 2015 by a committee headed by V.M. Katoch, the then secretary of department of health research.
- The committee had suggested setting up of six bulk drug parks, which was announced by the government later that year along with medical device parks.
- The plan was shelved a couple of years later due to lack of interest by pharmaceutical companies.
- The Cabinet approved the relaunch of a scheme to set up three bulk drug parks (Andhra Pradesh, Telangana and Himachal Pradesh) and four medical device parks for a total outlay of ₹3,400 crore over five years. This comes amid the coronavirus epidemic that hit supply of crucial pharmaceutical raw materials from China.
- Under the bulk drug park scheme, the government will give grants-in-aid to states with a maximum limit of ₹1,000 crore per bulk drug park, effectively up to ₹3,000 crore in total.
- A similar scheme has been announced for medical devices, with the Centre providing a maximum grant-in aid of ₹100 crore per park.
- The government also announced a production-linked incentive scheme to promote domestic manufacturing of critical key starting materials (KSMs), drug intermediates and active pharmaceutical ingredients (APIs) in the country.
- ❖ Under the PLI scheme, manufacturers will be given a 20% incentive on incremental sales of 53 identified critical bulk drugs, 26 fermentation-based bulk drugs and 27 chemical synthesis-based bulk drugs. Domestic pharmaceutical manufacturers almost completely depend on China for both these types of bulk drugs.
- The Indian pharmaceutical industry is the 3rd largest in the world by volume. However, despite this achievement, India is significantly dependent on import of basic raw materials, viz., bulk drugs that are used to produce medicines. In some specific bulk drugs, the import dependence is 80 to 100%.
- China supplies around two-thirds of India's pharmaceutical raw materials, and in certain segments like antibiotics, the proportion is as high as 90%.

SOURCE: The Hindu and Live Mint

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2. Assam to provide functional tap connections to 13 lakh rural households in 2020-21

- Assam presented the Annual Action Plan for consideration and approval of Ministry of Jal Shakti. Government of India approved Rs 1407 Crore for 2020-21 under Jal Jeevan Mission (JJM).
- Local village community/ Gram Panchayats and or its sub-committee/ user groups are being involved in planning, implementation, management, operation and maintenance of water supply systems in villages to ensure long-term sustainability.
- > Jal Jeevan Mission encourages participation of local community in surveillance of water quality. PHE (Public Health Engineering) department is duty bound to empower and engage with the community.
- ▶ Jal Jeevan Mission announced by the Prime Minister Shri Narendra Modi last year aims to provide tap water connections to 18 Crore rural households of the country by the year 2024. This transformational Mission focusses on the principle of 'equity and inclusiveness' to ensure universal coverage of every rural household.

Jal Jeevan Mission

- Jal Jeevan Mission, a central government initiative under the Ministry of Jal Shakti, aims to ensure access of piped water for every household in India.
- The Har Ghar Nal Se Jal programme was announced Budget 2019-20. This programme forms a crucial part of the Jal Jeevan Mission.
- The programme aims to implement source sustainability measures as mandatory elements, such as recharge and reuse through grey water management, water conservation, and rainwater harvesting.
- ❖ The Jal Jeevan Mission will be based on a community approach to water.

India's Water availability

In 1951, per-capita water availability in India was just over 5,000 cu m per year. In 2011, it was 1,545 cu m. The figure has almost certainly come down since. Should it drop below 1,000 cu m per year, India will formally become a water-scarce country for the first time in its 5,000-year history.

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- ❖ According to the NITI Aayog's Composite Water Management Index (CWMI) 2018, 21 Indian cities could face Day Zero in the coming years. Day Zero refers to the day when a place is likely to have no drinking water of its own. Bengaluru, Chennai, Delhi and Hyderabad are among the most susceptible.
- The report also said that 75% of Indian households do not have drinking water on premise and about 84 per cent rural households do not have piped water access.
- ❖ Water is not properly distributed where it is supplied through pipes. Mega cities like Delhi and Mumbai get more than the standard municipal water norm of 150 litres per capita per day (LPCD) while others get 40-50 LPCD.
- ❖ The World Health Organization prescribes 25 litres of water for one person per day to meet all basic hygiene and food needs. Extra available water, according to WHO estimates, is used for non-potable purposes like mopping and cleaning.

SOURCE: Business Standard and Economic Times

3. Ministry of Minority Affairs releases Infographics highlighting the initiatives and achievements of the over the last six years

Skill Development, Employment & Employment opportunities;

- *Hunar Haat*---Opportunities for artisans, chefs etc with special focus on Women empowerment;
- **Pradhan Mantri Jan Vikas Karyakram (PMJVK)**--- focusing on socio-economic-educational and employment-oriented infrastructure across the country in minority concentrated areas;
- Educational Empowerment; and
- **Utilisation of Waqf properties----Geo tagging** and Digitisation of Waqf properties across the country ensuring utilization of Waqf properties for welfare of the society.

Geo tagging- FOR DETAILS ON IT PLEASE REFER TO OUR TELEGRAM CHANNEL UPDATE PIB&AIR NEWS DATED 18/05/2020 to 20/05/2020

4. Indian Navy Commences Next Phase of Operation "Samudra Setu"

The next phase of Operation "Samudra Setu" to repatriate Indian citizens from overseas will commence on 01 June 2020.

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This operation is being progressed in close coordination with Ministries of External Affairs, Home Affairs, Health and various other agencies of the Government of India and State governments.

Samudra Setu

- ❖ Indian Navy has launched Operation "Samudra Setu" meaning "Sea Bridge", as a part of national effort to repatriate Indian citizens from overseas.
- Indian Naval Ships Jalashwa and Magar are presently enroute to the port of Malè, Republic of Maldives to commence evacuation operations from 08 May 2020 as part of Phase-1.

SOURCE: India Navy Website

5. IT Minister Launches National AI Portal of India- www.ai.gov.in

- On the occasion of the first anniversary of the second tenure of the government, the Union Ministry for Electronics and IT, Law and Justice and Communications launched India's national Artificial Intelligence Portal.
- > This portal has been *jointly developed by the Ministry of Electronics and IT and IT Industry*. National e-Governance Division of Ministry of Electronics and IT and NASSCOM from the IT industry will jointly run this portal.
- It also launched a National Program for the youth, "Responsible AI for Youth".
- > The aim of this Program is to give the young students of our country a platform and empower them with appropriate new age tech mind-set, relevant AI skill-sets and access to required AI tool-sets to make them digitally ready for the future.
- The Program has been created and launched by the National e-Governance Division, Ministry of Electronics & IT in collaboration with Intel India, with support from Department of School Education and Literacy (DoSE&L), Ministry of Human Resource Development.

Artificial Intelligence and Machine Learning- FOR DETAILS ON IT PLEASE REFER TO OUR TELEGRAM CHANNEL UPDATE PIB&AIR NEWS DATED 12/05/20 to 14/05/20

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6. Annual action plan approved for Bihar under Jal Jeevan mission

Besides, enabling every household with tap connection, Bihar has to give equal thrust on water conservation, rainwater harvesting, *grey-water management* & tackling over-extraction of groundwater.

Grey Water Management

- Greywater can be defined as any domestic wastewater produced, excluding sewage. The main difference between greywater and sewage (or blackwater) is the organic loading. Sewage has a much larger organic loading compared to greywater.
- Grey water is the category of waste water that is not contaminated with faecal or urinal matter. This broad category includes post-use water from most domestic purposes like bathing, washing dishes, laundry etc.
- While substantially less harmful than black water (water that has been contaminated by faecal matter), grey water still contains potentially hazardous chemical and biological particles. Additionally, untreated grey water is a wasted resource, that could have been used to provide relief from acute water stress in many parts of India.
- If harnessed with the right scientific techniques, grey water can become a potent resource for several non-potable uses, if treated with care.
- The composition of grey water, naturally, is substantially different form black water. It contains only about a tenth of the nitrogen found in black water. There is a much decreased load of pathogens in grey water than black water. As a result, the organic content of grey water decomposes more rapidly than black water and thus treatment is easier. These features make it usable as a sustainable source of irrigation, provided it meets quality criteria.
- * Typically grey water contains Total solids (TS), Total Suspended Solids (TSS) which are bigger than 0.2μm, settleable and colloidal solids. Grey water contains 60% to 70% of readily degradable organic solids and 30% of inorganic solids. The inorganic fraction is mostly sand and grit that settles to form and inorganic sludge layer. Total suspended solids comprise both settleable solids and colloidal solids. Suspended solids can be easily removed through settling or filtration.
- Nitrogen and Phosphorus are the two essential nutrients present in greywater. Greywater contains 10% or less than 10% of nitrogen of total water system and 10% to 30% of phosphorus of total water system. Nitrogen and Phosphorus, also known as the nutrients
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are essential for the growth of micro-organisms, plants and animals. When discharged into the aquatic environment, these nutrients can lead to the growth of undesirable aquatic life, which rob the water of dissolved oxygen which when discharged in excessive amounts on land they can lead to groundwater pollution.

Potential Risk and Benefit comparison between Grey water and Black water

	Grey water	Black water
Chemical Contaminants	Fats, Oils and toxic substance (organic compounds, Chlorides metals etc)	Micro contaminants (Heavy metals)
Biological contaminants	Almost Sterile (If not cross contaminated by faeces	Pathogens (Bacteria, Viruses, Helminths, Protozoa)
Value	Reuse potential (For irrigation or non- potable domestic use)	Good soil conditioner but only little nutrients

SOURCE: Maharashtra Govt. Water management paper and Sustainable Tech. Australia

7. Dr. Jitendra Singh launches e-booklet on DARPG achievements for the period May 30, 2019 to May 30, 2020 on the occasion of 1st year of Modi Government 2.0.

Dr. Jitendra Singh commended DARPG for *bringing out 3 important publications* - the *Good Governance Index (GGI) 2019*, the National e-Services Delivery Assessment 2019 and the Central Secretariat Manual of Office Procedure 2019.

Good Governance Index (GGI) 2019

- The Ministry of Personnel, Public Grievance and Pensions launched the Good Governance Index on 25th December, 2019 on the occasion of birth anniversary of Bharat Ratna Late Sri Atal Bihari Vajpayee.
- This is not the first time that benchmarking of States has been carried out. Different agencies including NITI Aayog, the government's policy think-tank, are evaluating the States on different parameters.
- ❖ The objectives of GGI are to provide quantifiable data to compare the state of governance in all states and union territories, enable them to formulate and implement suitable strategies for improving governance and shift to result oriented approaches and administration.
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The assessment was made on ten Sectors:

- Agriculture & Allied Sector
- Commerce & Industries
- Human Resource Development
- Public Health
- Public Infrastructure and Utilities
- Economic Governance
- Social Welfare and Development
- Judicial and Public Security
- Environment
- Citizen Centric Governance
- **Performance** in these sectors is measured on the basis of 50 indicators.
- The southern state of Tamil Nadu has bagged the top position in the composite ranking for good governance index (GGI), followed by Maharashtra and Karnataka.
- The states and union territories have been divided into three groups big states, northeast and hill states, and union territories for the rankings based on certain indicators separately.
- Some indicators farmers' income, prevalence of micro irrigation or water conservation systems and inflow of industrial investment have been left out. The indicator, "ease of doing business", has been given disproportionate weight in the sector of commerce and industries, to the virtual exclusion of growth rate of major and micro, small and medium enterprises.

SOURCE: Economic Times, The Hindu and Business Standard

8. DST initiates COVID-19 India National Supermodel for monitoring infection transmission & aid decision-making by policymakers

The Department of Science and Technology (DST) has initiated a COVID -19 Indian National Supermodel to help monitor the future transmission of infection, thus aiding decisions involving health system readiness and other mitigation measures.

Indian National Supermodel

Inspired by India's history of using mathematical models for disaster management planning of metrological events, DST has initiated this exercise to pool in expertise in the field and create one model for the entire country that will be subjected to rigorous tests

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required for evidence-based forecasting, routinely practiced in weather forecasting communities.

- It will aggregate successful evidence-based mathematical and statistical forecasting models and include the best predictive analytics for robust forecasting of infectious disease spread.
- ❖ Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) and IISc, Bangalore have been tasked to co-ordinate and work with all Covid-19 modeling projects and programs in the country.

SOURCE: Hindustan Times

9. A Rapid Response Regulatory enabling mechanism facilitated by Department of Biotechnology for COVID 19

The Department of Biotechnology has taken several proactive measures to streamline the biosafety regulation and to facilitate researchers and industries which are undertaking research and development in *Recombinant DNA Technology* and Hazardous Microorganisms.

Recombinant DNA Technology

- * Recombinant DNA (or rDNA) is made by combining DNA from two or more sources. In practice, the process often involves combining the DNA of different organisms.
- The process depends on the ability of cut, and re-join, DNA molecules at points identified by specific sequences of nucleotide bases called restriction sites. DNA fragments are cut out of their normal position in the chromosome using restriction enzymes (also called restriction endonucleases) and then inserted into other chromosomes or DNA molecules using enzymes called ligases.
- Recombinant DNA has been gaining in importance over the last few years, and recombinant DNA will only become more important in the 21st century as genetic diseases become more prevelant and agricultural area is reduced.
- It is playing a vital role in improving health conditions by developing new vaccines and pharmaceuticals. The treatment strategies are also improved by developing diagnostic kits, monitoring devices, and new therapeutic approaches.
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- It is also sometimes referred to as "chimera." By combining two or more different strands of DNA, scientists are able to create a new strand of DNA. The most common recombinant process involves combining the DNA of two different organisms.
- Below are some of the areas where Recombinant DNA will have an impact:
 - Better Crops (drought & heat resistance)
 - Recombinant Vaccines (ie. Hepatitis B)
 - Prevention and cure of sickle cell anemia
 - Prevention and cure of cystic fibrosis
 - Production of clotting factors
 - Production of insulin
 - Production of recombinant pharmaceuticals
 - Plants that produce their own insecticides
 - Germ line and somatic gene therapy

SOURCE: Research papers by universities

10. Facilitating Research and Innovation: Establishment of 4 COVID-19 Bio Banks by the Department of Biotechnology

- > NITI Aayog has recently issued guidelines for sharing of bio specimens and data for research related to COVID-19.
- As per the directives of the Cabinet Secretary, the Indian Council of Medical Research (ICMR) has notified 16 bio-repositories for collecting, storing and maintaining clinical samples (oropharyngeal/ nasopharyngeal swabs, broncheoalveolar lavage, sputum, blood, urine and stool) of COVID-19 patients.
- The Department of Biotechnology would be supporting these COVID-19 designated Bio-bank facilities through a well strategized future plan so that novel technological interventions can be developed in due course of time.
- These designated bio repositories will use the clinical samples for R&D purpose in their respective Institutes.

Bio-bank

- The term biobank covers collections of plant and animal, including human specimens.
- ❖ A biobank is a biorepository that accepts, processes, stores and distributes biospecimens and associated data for use in research and clinical care.
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- There are several types of biobanks. Including those that are disease-centric, population-based, genetic or DNA/RNA, project-driven, tissue versus multiple specimen type, commercial, and virtual biobanks.
- The traditional concept of DNA and serum banks has evolved to current biobanks in the genetic epidemiological studies, boosting population-based biobanks for healthy donors.
- In contrast, tissue repositories for cancer research were advanced for the pathology-based human biobanks to foster disease-based biobanks for patients.
- Although human biobanks have to consider additional, complicated ethical issues regarding human rights and dignity, they are considered to be one of the biological resource centers (BRCs) for which global organizations have developed guidelines dealing with operational and quality issues, biosecurity, collaborations, and so forth.
- Biobanking and biorepositories have been implemented in many areas of public health, such as drug and biomarker development, clinical trials monitoring of the effects of drugs on eventual outcomes, and clinical care for therapy.

SOURCE: Science Direct and USNCBI

11. IASST scientists develop herbal medicine loaded smart bandage for wounds

- Scientists from Institute of Advanced Study in Science and Technology (IASST) an autonomous institute of the Department of Science & Technology, Govt. of India have developed a pH-responsive smart bandage that can deliver the medicine applied in the wound at the pH that is suitable for the wound.
- The scientists have developed the delivery system by fabricating a nanotechnology-based cotton patch that uses cheap and sustainable materials like cotton and jute.
- In the research a nanocomposite hydrogel bound compact cotton patch incorporated with jute *carbon dots* was fabricated to carry out the drug release.
- > Jute has been used for the first time as a precursor in synthesizing fluorescent carbon dots, and water was used as the dispersion medium. Herbal formulation neem leaf (Azadirachtaindica) extract was taken as the model drug to exemplify the release study.
- This study demonstrated the stimuli-responsive drug delivery system using natural products jute and neem leaf extract.
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- > The jute carbon dots were immobilized in the hydrogel matrix-bound cotton patch and could effectively exemplify different drug release pattern at two different pH levels --lower at pH 5 than at higher at pH 7.
- Around any wound, pH changes due to bacterial infections. Hence they developed a pH-responsive drug delivery system with the cotton patch. Carbon dots which are zero-dimensional nanomaterials, due to their unique carbon core and surface functional groups can be designed to exhibit different behaviour towards different pH.
- They are also known for their low toxicity and great biocompatibility. Therefore, different carbon dots were used as a nano-filler in fabricating hybrid cotton patches to check the drug release behaviour.

<u>carbon dots</u>- FOR DETAILS ON IT PLEASE REFER TO OUR TELEGRAM CHANNEL UPDATE PIB&AIR NEWS DATED 21/05/20 to 23/05/20

12. PM Modi Launches CHAMPIONS: Technology Platform to empower MSMEs

- Prime Minister launched the technology platform CHAMPIONS which stands for Creation and Harmonious Application of Modern Processes for Increasing the Output and National Strength.
- As the name suggests, the portal is basically for making the smaller units big by solving their grievances, encouraging, supporting, helping and handholding. It is a real one-stop-shop solution of MSME Ministry.

Detailed objectives of CHAMPIONS:

- Grievance Redressal: To resolve the problems of MSMEs including those of finance, raw materials, labor, regulatory permissions etc particularly in the Covid created difficult situation;
- To help them capture new opportunities: including manufacturing of medical equipments and accessories like PPEs, masks, etc and supply them in National and International markets;
- To identify and encourage the sparks: i.e. the potential MSMEs who are able to withstand the current situation and can become national and international champions.
- It is a technology packed control room-cum-management information system.
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In addition to ICT tools including telephone, internet and video conference, the system is enabled by *Artificial Intelligence, Data Analytics and Machine Learning.* It is also fully integrated on real time basis with GOI's main grievances portal CPGRAMS and MSME Ministry's own other web based mechanisms.

13. PM chairs first Cabinet Meeting of second year in office

- Example 2 The Ministry of Housing and Urban Affairs has launched a Special Micro-Credit Facility Scheme PM SVANidhi (PM स्वनिधि) PM Street Vendor's AtmaNirbharNidhi, for providing affordable loans to street vendors. This scheme will go a long way in enabling them to resume work and earn livelihoods.
- Harnessing technology for empowerment platform will integrate the web portal/ mobile app with Udyami Mitra portal of SIDBI for credit management and PAiSA portal of MoHUA to administer interest subsidy automatically.
- ➤ As part of the Atmanirbhar Bharat initiative, One Nation One Ration card, free food grains even for those without ration cards, a new affordable rental scheme for their housing and many more measures have been announced for the welfare of the migrant labourers.

PAiSA portal

- ❖ The Union Ministry of Housing and Urban Affairs on November 26, 2018 launched the 'PAiSA' - Portal for Affordable Credit and Interest Subvention Access, a centralised electronic platform for quicker processing of loans under the Deendayal Antyodaya Yojana - National Urban Livelihoods Mission (DAY-NULM).
- The web platform was designed and developed by Allahabad Bank, the nodal bank under the scheme.
- The fund was on-boarded on PAiSA portal in April 2020 on a pilot basis in Gujarat and will soon be across states in May 2020.
- It was an effort by the government to connect directly with the beneficiaries, ensuring that there is greater transparency and efficiency in the delivery of services. It was done to benefit small entrepreneurs across all states and union territories.

SOURCE: Deccan Herald and NULM Website

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Udyami Mitra portal

- Small Industries Development Bank of India (SIDBI) has launched the 'Udyami Mitra' Portal to improve accessibility of credit and handholding services to Micro, Small and Medium Enterprises (MSMEs).
- Scheduled Commercial Banks (SCBs) have been advised to ensure a target of 7.5% of Adjusted Net Bank Credit (ANBC) for Micro Enterprises, that collateral security is not required for loans upto Rs. 10 lakh to MSE sector, a simplified working capital requirement for MSEs.
- To enlarge its foot print in delivery of products and services in MSME eco-system, a series of digital delight initiatives involving various portals such as *sidbi.in*, *sidbistartupmitra.in*, *standupmitra.in* has been launched by SIDBI.
- ❖ SIDBI Udyamimitra happens to be a new addition as another interactive portal. It is an enabling platform which leverages IT architecture of Stand-Up Mitra portal and aims at instilling ease of access to MSMEs financial and non-financial service needs.



SOURCE: Udyami mitra portal and PIB

14. Minimum Support Prices (MSP) for Kharif Crops for marketing season 2020-21

➤ The Umbrella Scheme "Pradhan MantriAnnadataAaySanraksHanAbhiyan" (PM-AASHA) announced by the government in 2018 will aid in providing remunerative return to farmers for their produce.

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➤ The Umbrella Scheme consists of three sub-schemes i.e. Price Support Scheme (PSS), Price Deficiency Payment Scheme (PDPS) and Private Procurement & Stockist Scheme (PPSS) on a pilot basis.

Pradhan MantriAnnadataAaySanraksHanAbhiyan (PM-AASHA)

- ❖ Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA) is an umbrella scheme aimed at ensuring remunerative prices to the farmers for their produce.
- The new Umbrella Scheme includes the mechanism of ensuring remunerative prices to the farmers and is comprised of:
 - Price Support Scheme (PSS): In Price Support Scheme (PSS), physical procurement
 of pulses, oilseeds and Copra will be done by Central Nodal Agencies with proactive
 role of State governments. It is also decided that in addition to NAFED, Food
 Cooperation of India (FCI) will take up PSS operations in states /districts. The
 procurement expenditure and losses due to procurement will be borne by Central
 Government as per norms.
 - Price Deficiency Payment Scheme (PDPS): Under Price Deficiency Payment Scheme this scheme (PDPS), it is proposed to cover all oilseeds for which MSP is notified. In this direct payment of the difference between the MSP and the selling/modal price will be made to pre-registered farmers selling his produce in the notified market yard through a transparent auction process. All payment will be done directly into registered bank account of the farmer. This scheme does not involve any physical procurement of crops as farmers are paid the difference between the MSP price and Sale/modal price on disposal in notified market.
 - Pilot of Private Procurement & Stockist Scheme (PPPS): It has also been decided
 that participation of private sector in procurement operation needs to piloted so
 that on the basis of learnings the ambit of private participation in procurement
 operations may be increased.
- Therefore in addition to PDPS, it has been decided that for oilseeds, states have the option to roll out Private Procurement Stockist Scheme (PPSS) on pilot basis in selected district/APMC(s) of district involving the participation of private stockiest.
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❖ The pilot district/selected APMC(s) of district will cover one or more crop of oilseeds for which MSP is notified. Since this is akin to PSS, in that in involves physical procurement of the notified commodity, it shall substitute PSS/PDPS in the pilot districts.

SOURCE: Vikaspedia and Newspapers

15. Date of Poll and Counting of Votes for Deferred Rajya Sabha Poll

- Section 153 of the Representation of the People Act, 1951 specifies that the Election Commission for reasons which it considers sufficient, may extend the time for the completion of any election by making necessary amendments in the notification issued by it
- Accordingly, considering the prevailing unforeseen situation of public health emergency due to COVID-19.

Representation of the People Act, 1951

- ❖ Article 324 to 329 of Part XV of the Constitution deals with the electoral system in our country. Constitution allows Parliament to make provisions in all matters relating to elections to the Parliament and State Legislatures. In exercise of this power, the Parliament has enacted laws like Representation of the People Act 1950 (RPA Act 1950), Representation of the People Act 1951 (RPA Act 1951).
- The act was passed by the parliament under Article 327 of the constitution. It provides for the conduct of election to the parliament and state legislatures. It also clarifies about the qualifications and disqualifications for membership of those Houses.

SOURCE: India Code

16. Finance Commission holds meeting with the Ministry of Environment, Forest and Climate Change on Issues Related to Air Quality in Urban Areas and

- The XVFC Report 2020-2021 was the first time that any Commission has given attention to air quality (AQ) as a major focus and this FC had not only recommended grants for 2020-21 and also provided road map for its award period.
- ➤ The Commission is currently deliberating the recommendations to be made for the next five years from 2021-22 to 2025-26 and needs to formulate suitable provisions for continuing the grants for these cities/UAs (Urban Agglomerations) for improving ambient air quality in a sustainable manner.
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Finance Commission

- The Finance Commission is constituted by the President under article 280 of the Constitution, mainly to give its recommendations on distribution of tax revenues between the Union and the States and amongst the States themselves. Two distinctive features of the Commission's work involve redressing the vertical imbalances between the taxation powers and expenditure responsibilities of the centre and the States respectively and equalization of all public services across the States.
- **Besides suggesting the mechanism to share tax revenues,** the Commission also lays down the principles for giving out grant-in-aid to states and other local bodies.
- The commission has to take on itself the job of addressing the imbalances that often arise between the taxation powers and expenditure responsibilities of the centre and the states, respectively. Primarily, it has to ensure a sense of equality in public services across the states.
- What are the functions of the Finance Commission?
 - It is the duty of the Commission to make recommendations to the President as to:
 - The distribution between the Union and the States of the net proceeds of taxes
 which are to be, or may be, divided between them and the allocation between the
 States of the respective shares of such proceeds;
 - The principles which should govern the grants-in-aid of the revenues of the States out of the Consolidated Fund of India;
 - The measures needed to augment the Consolidated Fund of a State to supplement
 the resources of the Panchayats in the State on the basis of the recommendations
 made by the Finance Commission of the State;
 - Any other matter referred to the Commission by the President in the interests of sound finance.
- * The recommendations of the Finance Commission are implemented as under:-
 - Those to be implemented by an order of the President:

 The recommendations relating to distribution of Union Taxes and Duties and Grants-in-aid fall in this category.
 - Those to be implemented by executive orders:
 Other recommendations to be made by the Finance Commission, as per its Terms of Reference
- The Finance Commission Rules, 1951, lay down the criteria for being members of the constitutional body: those having special knowledge of finance and accounts of government with wide knowledge and experience in financial matters and in administration, or with
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- special knowledge of economics, and those who have been qualified to be appointed as a judge of a High Court.
- ❖ The Fifteenth Finance Commission (FC) has considered the 2011 population along with forest cover, tax effort, area of the state, and "demographic performance" to arrive at the states' share in the divisible pool of taxes. As had been widely anticipated, shares of the southern states, except Tamil Nadu, have fallen with Karnataka losing the most.
- * XVFC chairman is Shri N.K.Singh

SOURCE: FCI Website, The Hindu and Indian Express

17. Three more States included in One Nation One Card scheme

- Three more states namely Odisha, Sikkim and Mizoram in the scheme on 'Integrated Management of Public Distribution System' (IM-PDS).
- Under this system nation-wide portability of the benefits under NFSA through "One Nation One Ration Card" plan is implemented to enable the NFSA ration card holders to lift their entitled quota of subsidised foodgrains from any ePoS enabled FPS of their choice anywhere in the country, by using the existing/same ration card after Aadhaar authentication on ePoS device.
- The facility so far is enabled in 17 States/UTs, namely Andhra Pradesh, Bihar, Dadra & Nagar Haveli and Daman & Diu, Goa, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Punjab, Telangana, Tripura and Uttar Pradesh.

One Nation One Ration Card

- Under the National Food Security Act, 2013, about 81 crore persons are entitled to buy subsidized foodgrain rice at Rs 3/kg, wheat at Rs 2/kg, and coarse grains at Re 1/kg from their designated Fair Price Shops (FPS) of the Targeted Public Distribution System (TPDS).
- ❖ In the present system, a ration cardholder can buy foodgrains only from an FPS that has been assigned to her in the locality in which she lives. However, this will change once the 'One Nation, One Ration Card' system becomes operational nationally.
- The new system, based on a technological solution, will identify a beneficiary through biometric authentication on electronic Point of Sale (ePoS) devices installed at the FPSs, and
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- enable that person to purchase the quantity of foodgrains to which she is entitled under the NFSA.
- ❖ Integrated Management of Public Distribution System (IM-PDS) portal provides the technological platform for the inter-state portability of ration cards, enabling a migrant worker to buy foodgrains from any FPS across the country, the other portal hosts the data of distribution of foodgrains through E-PoS devices within a state.

SOURCE: IMPDS Website and Indian Express

18. DRDO develops Ultra Swachh for disinfection of PPEs and other materials'

- Defence Research and Development Organisation (DRDO) has developed a disinfection unit named Ultra Swachh to disinfect a wide range of materials, including Personal Protective Equipment (PPEs), electronics items, fabrics, etc.
- The system uses an *advanced oxidative process* comprising of multiple barrier disruption approach using Ozonated Space Technology for disinfection.
- The system is double layered with specialised Ozone sealant technology assuring trapping of ozone for the necessary disinfection cycle. It also has catalytic converter to ensure environment friendly exhaust i.e. only oxygen and water.
- ➤ **The Ultra Swachh comes in two variants** namely Ozonated Space and Trinetra Technology. Trinetra technology is the combination of Ozonated space and radical dispenser. Treatment is optimised with automation for quick disinfection cycle.

Advanced oxidative process

- Advanced oxidation processes (AOPs) are highly efficient novel methods that accelerate the oxidation and the degradation of a wide range of organic and inorganic substances that are resistant to conventional treatment methods.
- ❖ AOPs produce in situ transitory species (mainly hydroxyl radicals) which aid in the degradation process until the target pollutant species are completely converted to CO2, H2O and mineral acids (if the pollutant contains halogens).
- ❖ It utilizing powerful hydroxyl or sulfate radicals as a major oxidizing agent were first proposed in the 1980s for potable water treatment.
- Later, AOPs were broadly applied for treatment of different types of wastewaters because the strong oxidants can readily degrade recalcitrant organic pollutants and remove certain inorganic pollutants in wastewater.
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- These are efficient methods to remove organic contamination not degradable by means of biological processes.
- They involve the production of very reactive oxygen species able to destroy a wide range of organic compounds. AOPs are driven by external energy sources such as electric power, ultraviolet radiation (UV) or solar light, so these processes are often more expensive than conventional biological wastewater treatment.
- Moreover, AOPs can be applied for the disinfection of water, air and for remediation of contaminated soils.

SOURCE: Science Direct

19. Cabinet approves Upward revision of MSME definition and modalities

- In the package announcement, the definition of micro manufacturing and services unit was increased to Rs. 1 crore of investment and Rs. 5 crore of turnover.
- The limit of small unit was increased to Rs. 10 crore of investment and Rs 50 crore of turnover. Similarly, the limit of a medium unit was increased to Rs 20 crore of investment and Rs. 100 crore of turnover. It may be noted that this revision was done after 14 years since the MSME Development Act came into existence in 2006.
- Keeping in mind these representations, it was decided to further increase the limit for medium manufacturing and service units. Now it will be Rs. 50 crore of investment and Rs. 250 crore of turnover.
- It has also been decided that the turnover with respect to exports will not be counted in the limits of turnover for any category of MSME units whether micro, small or medium. This is yet another step towards ease of doing business. This will help in attracting investments and creating more jobs in the MSME sector.

20. Ministry of Tourism organises 26th Dekho Apna Desh webinar titled 'The Tenacity of Survival -Inspirational story of Kutch'

- Kutch is a land of salt desert, grasslands and mangroves. Interestingly, the mangroves here are known for an amazing phenomenon of being world's only Inland Mangrove. The Rann of Kutch alone produces three-fourth of total salt supply of India.
- > The place is also the home to the Kharai breed of came! which has the special ability to survive on both dry land as well as in the saline water. They can even swim in sea water and
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feed on saline water and plants. They are well-adapted to the extreme climate of the desert and high salinity of water.

- The key highlights of the presentation were virtual visit to the community of Ajrakh traditional block printers.
- Ajrakh is one of the oldest types of block printing on textiles still practiced in parts of Gujarat and Rajasthan in India. Textiles printed in this style are hand-printed using natural dyes on both sides by a laborious and long process of resist printing (a method of printing in which designated areas in the pattern are treated to resist penetration by the dye).
- > The seminar then took the participants visit to Bannithe Salt Desert in Kutch where the work of three major indigenous communities engaged in pottery, embroidery and leather work was showcased.

The other salient attractions of Kutch showcased in the webinar included:

- Dholavira- UNESCO World Heritage Site and second largest Harappan site located in India. It is indeed a marvellous example of town-planning and architecture.
- Fossil Park
- Rann of Kutch-Salt Desert of Arabian Sea
- Kala Dungar
- Guru Gorkanath Temple
- Narayan Sarovar Temple
- Lakhport Fort & Port
- Surhando- Unique peacock-shaped instrument plays a melodious music
- Thaali Dance- A balancing dance performed to commensurate the celebrations of marriage and child birth
- Tooofaan- Famous wild dance of the ocean also known as "Samundar ki Masti"
- Waai Sufi Mystics

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All India Radio (AIR--News From 30th May to 01st June 2020)

SPECIFIC AIR NEWS NOT COVERED ABOVE

1. Centre announces '*Mudra Shishu loan*' for small businesses and cottage industries

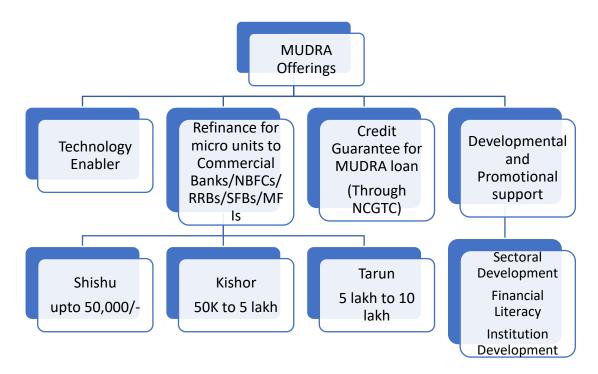
- ➤ A 1500 crore interest subvention for small business and cottage industries has been announced *under Mudra Shishu loan*. Under this scheme, one lakh beneficiaries can avail interest benefit of 2 per cent for a year.
- ➤ A Rs 5000 crore package was announced for the roadside hawkers. Under this, 50 lakh street vendors can avail loan upto Rs 10,000. Street vendors can contact any nationalised bank to avail the benefit.

Mudra Shishu loan

- Micro Units Development and Refinance Agency Ltd. [MUDRA] is an NBFC supporting development of micro enterprise sector in the country.
- MUDRA provides refinance support to Banks / MFIs / NBFCs for lending to micro units having loan requirement upto 10 lakh.
- MUDRA provides refinance support to micro business under the Scheme of Pradhan Mantri MUDRA Yojana. The other products are for development support to the sector.
- The funding support from MUDRA are of two types:
- Micro Credit Scheme (MCS) for loans up to 1 lakh finance through MFIs.
- Refinance Scheme for Commercial Banks / Regional Rural Banks (RRBs) / Small Finance Banks / Non Banking Financial Companies (NBFCs).
- ***** The bouquet of offerings of MUDRA is depicted below.

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SOURCE: MUDRA Website

2. ICMR advises States to conduct sero-survey to measure corona virus exposure in population

- Indian Council of Medical Research, ICMR has advised the States to **conduct sero**survey to measure corona virus exposure in the population using IgG ELISA test.
- > IgG antibodies generally start appearing after two weeks of onset of infection, once the individual has recovered after infection and last for several months.
- Therefore, the IgG test is not useful for detecting acute infection but indicates episode of corona infection in the past. Sero-surveys help to understand the proportion of population exposed to corona infection including asymptomatic individuals.

IgG ELISA test- FOR DETAILS ON IT PLEASE REFER TO OUR TELEGRAM CHANNEL UPDATE PIB&AIR NEWS DATED 09/05/2020 to 11/05/2020

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Serosurvey

- Serosurveillance provides estimates of antibody levels against vaccine preventable diseases (VPDs) and is considered the gold standard for measuring population immunity due to past infection or vaccination.
- It is an important component of disease surveillance and complements notification, hospitalisation, mortality and immunisation coverage data. National serosurveillance programs are well established in many countries worldwide.
- ❖ Potential applications serosurveillance program are:
 - Examining trends of immunity over time
 - Evaluating the impact of vaccination programs
 - Identifying groups at risk
 - Informing immunisation policy
 - Disease modelling
 - Estimating the burden of specific VPDs
 - Predicting potential outbreaks
 - Contributing to verifying disease elimination
 - Identifying infection with new or emerging pathogens and assisting with public health responses

SOURCE: NCIRS Australia

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