IAS PARLIAMENT
Information is a Blessing
A Shankar IAS Academy Initiative

GIST OF YOJANA

JUNE 2020

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1. INDUSTRY 4.0

What is meant by Industry 4.0?

- Industry 4.0 is signaling a change in the traditional manufacturing landscape.

- Also known as the Fourth Industrial Revolution, Industry 4.0 encompasses three technological trends driving this transformation- connectivity, intelligence and flexible automation.

- Industry 4.0 describes the growing trend towards automation and data exchange in technology and processes within the manufacturing industry, including- The Internet of Things (IoT), The Industrial Internet of Things (IIoT), Cyber-physical Systems (CPS), Smart Manufacturing, Smart Factories, Cloud Computing, Additive Manufacturing, Big Data, Robotics, Cognitive Computing, Artificial Intelligence & Blockchain etc.

- This automation creates a manufacturing system whereby the machines in factories are augmented with wireless connectivity and sensors to monitor and visualise an entire production process and make autonomous decisions.

What is the evolution of Industrial Revolution?

- The first industrial revolution came with the advent of mechanisation, steam power and water power.

- The second industrial evolution revolved around mass production and assembly lines using electricity.

- The third industrial revolution came with electronic and IT systems and automation.

- The fourth industrial revolution is associated with cyber-physical systems.

What will be the impact of Industry 4.0 post Covid - 19?

- Industry 4.0 is not only as relevant as it was before the global COVID-19 emergency; it is actually far more relevant moving forward.

- COVID-19 is causing radical shifts in workflow across the globe as millions practice social distancing and comply with self-quarantine recommendations.

- The pandemic's dramatic appearance has accelerated numerous trends while slowing others.

- Although businesses have had reason to embrace digital workflows in the past, COVID-19 has provided another strong incentive to move towards a smart factory, complete with smart manufacturing or smart printing processes.

- While conventional wisdom says that a dedicated office space is required to maximise productivity but this theory is being put to the ultimate test during COVID-19.

- The integration of digital infrastructure to streamline public health to respond to the COVID-19 pandemic is very crucial in the context of epidemic forecasting and decision-making, one such example in India is the Aarogya Setu app by Government of India.

- The fastest scalable solution to India's COVID-19 challenge was to employ digital technology for diagnosis and for contact tracing. Aarogya Setu app can also be tapped for providing telemedicine, especially in remote parts, during this moment of crisis.

- This digital infrastructure implementation increasingly fuels the digital transformation initiatives within an organisation as well.In the present situation, we are seeing major occurrences worldwide, including soaring adoption of online services, an enormous requirement for internet services, and enhanced connectivity among industries, regardless of their sizes.

- The impact of the COVID-19 pandemic has demonstrated the value of IT and digital transformation across industries and businesses and they must utilise this time to speed up the transition.

- It has been demonstrated in the enhanced corporate ability of long-distance collaborative work, wide recognition of the value of digital transformation and information technology among all employees, and the ability to market online and business development.

- Going forward, many organisations may adopt remote working agreements as strategies to reduce

costs, improve productivity, and increase worker satisfaction.

- Many manufacturers are increasing efforts to equip their human workers with digital connected-worker tools that incorporate safety checks into workflows, ensure collaboration with colleagues when physical contact is off the cards, and other such processes that ultimately balance business continuity and employee healh.

- Manufacturers who understand and act on this new normal will have ample opportunities for growth in this era of Industry 4.0.

2. AIM - FOSTERING INNOVATION

Who is a Social entrepreneur?

- Social entrepreneur is a creature of his or her time—a hybrid that combines the driving passion for improving a lot of excluded groups with the practical, innovative and opportunistic traits of the entrepreneur.

- Social entrepreneurs are focused on the delivery of public goods using business approaches.

- They are too busy finding the solutions that will allow all people to participate as active producers and consumers in the local, national and global economies.

What is Atal Innovation Mission?

- Government of India has set up Atal Innovation Mission (AIM) to promote a culture of innovation and entrepreneurship in the country.

- AIM's objective is to develop new programmes and policies for fostering innovation in different sectors of the economy, provide platform and collaboration opportunities for different stakeholders, create awareness and create an umbrella structure to oversee innovation ecosystem of the country.

What are the initiatives taken under the AIM?

- **Atal Tinkering Labs -** Over the last two years, AIM has launched the establishment of thousands of Atal tinkering Labs enabling students from grade 6 to grade 12 to have access to and tinker with innovative tools and technologies like 3D printers, robotics, miniaturised electronics do-it-

yourself kits, thus stimulating a problem solving innovative mindset to solve problems in the community they are in.

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- Atal Tinkering Labs are being established in schools nationwide with 4880+ operational in 650+ districts and over 2 million students having access to ATLs.

- **Atal Incubation Centres -** To promote creation of a supporting ecosystem for start-ups and entrepreneurs, AIM has been establishing world-class incubators called Atal Incubation Centres (AICs) in universities. Institutions, corporates, etc. that would foster world-class innovative start-ups and become scalable and sustainable enterprises.

- To date, AIM has selected 102 universities / institutions / private players to establish world class Incubators each of which will foster creation and nurturing of 40-50 world class Startups every four years. 5

- 0+ of them are already operational with 900+ operational Startups and the remaining will be operationalised during this year.

- **Atal Community Innovation Centres -** To promote the benefits of technology led innovation to the unserved / underserved regions of India including Tier 2, Tier 3 cities, aspirational districts, tribal, hilly and coastal areas, AIM is setting up Atal Community Innovation Centres with a unique partnership driven model wherein AIM would grant up to Rs. 2.5 crore to an ACIC subject to a partner proving equal or greater matching funding.

- Over 300+ Applications

- have been received across the country and 50+ ACICs will be established during the next two years.

- **Atal New India Challenges -** To create product and service innovations having national socio-economic impact, AIM has launched over 24 Atal New India Challenges in partnership with five different ministries and departments of central government.

- 52 winners have been selected for grant aid and hand holding by Incubators/mentors of AIM out of 950+ applications received for the same.

- **Applied Research and Innovation for Small Enterprises (ARISE) -** To promote innovation in a phased manner in the MSME/Start-up sector AIM will be launching ARISE along with partner Ministries so that great research ideas are converted to viable innovative prototypes followed by product development and commercial deployment.

- **Mentorship and Partnerships - with Public, Private sector, NGOs, Academia, Institutions -** To enable all the initiatives to succeed, AIM has launched one of the largest mentor engagement and management program "Mentor India – The Mentors of Change".

- To date, AIM has over 10000+ registrations nationwide on AIM with 4000+ of them allocated to ATLs and AICs.

- What's even more promising is that other government agencies are also leveraging Innovation for Inclusive Growth. The Defence Institute for High Altitude Research (DIHAR) in Ladakh has played an innovative and transformational role in accelerating the socioeconomic development of Ladakh.

- Many initiatives like solar energy based low-cost Green Houses, zero energybased storage have transformed the vegetable and animal productivity and output, and even raised the tree line above 13000 ft.

3. SOCIAL MEDIA - THE FORCE MULTIPLIER

What are the areas in which GOI is using the social media as force multiplier?

- **Crisis / Disaster Management -** Whenever there is a big, unexpected crisis, citizens tend to panic and look for directions and advisories from their elected representatives.

- What adds to the heat of the moment is the possibility of (panic induced) rumours that may lead citizens astray.

- Social media is now increasingly being used by governments to reach out to citizens during such crisis.

- Two recent examples bear out this trend the first one is a cyclone alert from the National Disaster Management Agency (NDMA) on

India's eastern coasts (in the state of Odisha), while the other one is an advisory from PIB (Indian Government's Press Information Bureau) to citizens for the lockdown imposed due to COVID-19.

- Citizen Engagement - One of the best roles social media can play is to act as a medium for continuous engagement between governments and its citizens.

- Citizens should feel their governments are participatory and welcoming, and be able to contribute their ideas, comments and suggestions in policy formulation and program implementation.

- The Indian Government's MyGov platform has proven to be popular with citizens in this regard.

- Apart from MyGov, other social media channels used by the Indian Government *(*Twitter, Facebook, WhatsApp, Instagram*)* also promote citizen engagement, participation, and transparency in this important relationship.

- **Citizen Grievances & Support** - Social media has emerged as a very impactful, real-time channel for citizen grievances and support.

- Most citizen services (specially the public facing ones) maintain active accounts on social media and encourage citizens to directly reach out with their grievances.

- Sometimes when the query gets resolved quickly, citizens express their gratitude and elation immediately.

- This expression can act as an authentic validation or testimonial for the service.

- The two examples below are common on social media these days–the first one is about a traffic complaint to Mumbai Police, while the other one is a realtime grievance filed by a traveller on Indian Railways to the Railways Bengaluru Division.

- **Law & Order** - Amongst governmental agencies, police departments are arguably one of the most active users of social media channels.

- This is because their jobs hover around real-time, public facing situations, which are frequently subject to rumours, false alerts etc.

- They are required to display trust in their public dealings and communicate unequivocally.

- The Police frequently needs to make public announcements–something that social media is well-suited for.

- **Hiring & Recruitment -** Some government agencies are using social media hiring channels for attracting best-in-class talent for their job vacancies.

- "LinkedIn" s a popular online recruitment platform–here is an example of a vacancy posted by NISG (National Institute of Smart Government) for technical positions in UIDAI (Unique Identification Authority of India) which runs the Government of India's Aadhaar program.

- **Foreign Relations -** Social media bridges the distance between nations on the internet.

- Many governments agencies are using social media channels effectively to engage with their foreign counterparts.

- Embassies and foreign consulates are active on Twitter & Facebook, engaging with each other or sharing important updates to their citizens.

- Below is an example of the Indian Government (through their official Twitter account) wishing the people of Paraguay on their Independence Day and how the Indian Government's Ministry of External Affairs (MEA) has published all their official Twitter handles on the MEA website.

- **Business & Industry Relations -** Government agencies partner with businesses, industry bodies and trade organisations on a regular basis for policy, consultations, networking etc.,.

- The two examples shared on the left exemplify this–the first is a Facebook post from Ministry of Commerce & Industry showing the Minister addressing an industry gathering, while the second is an invitation on Twitter for an industry summit on Education by the Indian Consulate in Indonesia.

- **Live Traffic Updates -** Real time traffic updates and advisories get regularly shared in the metropolitan cities via the local Traffic Police social media accounts.

- These updates are helpful to commuters in avoiding traffic jams or taking detours to save time.

- Often these live updates are picked up by local FM radio channels that do their civic bit, by sharing it on with live audiences that have tuned into the channel while on the roads.

- **Crowdsourcing Ideas & Innovation -** The internet is fundamentally participatory in character–people openly share their knowledge, skills, and experiences in the belief that others can benefit from it. Sometimes this is free, or there may be some incentives for it.

- Crowd-sourcing is a popular activity on the internet, where you get to tap into the collective "wisdom of the crowds".

- On the left is an example on how the Indian Government's community participation platform MyGov is leveraging crowdsourcing, by hosting a "Logo Design Competition" for an upcoming government heritage complex.

- Citizens are invited to contribute their logo entries for the contest, which has an accompanying cash prize to generate excitement and motivate participants.

- **Citizen Service-Delivery Apps -** The government has launched various service delivery apps for its citizens.

- Social media is a key channel to drive awareness about these apps and get people to download them.

- Because these apps are mass targeted, the intent is to make them "go viral" and spread via "word-of-mouth" from person to person.

- The two examples here showcase this–DigiLocker is meant for digitised documents & certificates, while UMANG is like a gateway (or a directory) to multiple government services. While these apps have their individual social media handles, they are also promoted by the government departments.

- **Transparency & Accountability -** Citizens want ready access to government departments and its functioning officers.

- Given the size and expanse of the official setup, it is often not easy to figure out who is the concerned officer-in-charge (in whose

jurisdiction the case falls) and their contact details.

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- The police department in Dima Hasao, one of the districts in Assam has publicly shared telephone numbers of their top officers and their rank and file.

- Such measures reduce bureaucracy, while promoting transparency and accountability in the eyes of the citizens.

4. DIGITAL PLATFORMS

What are the Digital tools developed by GOI in response to COVID - 19?

- **Aarogya Setu App -** The 'Aarogya Setu' App enables people to assess themselves the risk for their catching the coronavirus infection.

- It calculates this based on people's interaction with others, using cutting-edge bluetooth technology, algorithms and artificial intelligence.

- Once installed in a smartphone through an easy and user-friendly process, the app detects other devices with Aarogya Setu installed that come in the proximity of that phone.

- The App can then calculate the risk of infection based on sophisticated parameters if any of these contacts is tested positive.

- **Chatbot -** The Government of India has launched a WhatsApp chatbot so that the citizens can get instant and authentic answers to all of their queries related to the Coronavirus pandemic.

- Users have to drop a 'Hi' on the number +91-9013151515 or can call on the MyGov Corona Helpdesk to get answers to pertinent queries such as the symptoms of thedeadly disease, nearest COVID-19 testing facility.

- **Corona Kavach -** It is a COVID-19 tracker application, created by the Union Ministry of Electronics and Information Technology in collaboration with the Ministry of Health and Family Welfare.

- This application provides users with realtime location of infected users who have activated the 'Kavach' feature.

- **COVID-19 Feedback -** This application has been developed by the centre to get direct feedback from people who have undergone

coronavirus treatment in the country.

- **COVID-19 National Helpline -** A 24x7 National Helpline number +91-11-23978046 and toll-free number 1075 have been launched where people can access corona related information by the government.

- Also, the centre has an e-mail id- ncov2019@gov.in to attend to queries of people related to the disease.

- **SAMPRAC -** Defence Research and Development Organisation (DRDO) has developed an app called **'SAMPRAC'** to enable tracking people under quarantine.

- It is a software that includes an app that can be installed on the smart phones of the infected COVID-19 patients.

- It is a server-side application that is used by the state authorities to track the patients.

- The system enables geofencing, AI-based automated face recognition (between selfie taken during registration and subsequent selfies sent by the patient), and would have the capability to display the information to the state officials on

a map which can be colour-coded to depict hotspots and containment zones.

- **SAHYOG -** The Survey of India (SoI) has developed an e-platform that collects geotagged information on the nation's critical infrastructure in order to help the government and public health agencies take critical decisions in response to the current COVID-19 pandemic situation.

- The platform has geo-located information of hospitals,testing labs, quarantine camps, containment and buffer zones as well as information on biomedical waste disposal sites.

- The mobile based application, called SAHYOG, works as a key tool in helping community workers carry out the government's objectives of door-to-door surveys, contact tracing, deliveries of essentials items and to create focused public awareness campaigns.

What are the other digital interventions by GOI?

- **Bhim App -** BHIM (**Bharat Interface for Money**) is an Indian mobile payment app developed by

the National Payments Corporation of India (NPCI), based on the Unified Payments Interface (UPI).

- It was launched on 30th December, 2016 and helps in facilitating e-payments directly through banks as a drive towards cashless transactions.

- Transactions on BHIM are nearly instantaneous and can be done 24/7 including weekends and bank holidays.

- BHIM also allows users to check the current balance in their bank accounts and to choose which account to use for conducting transactions, although only one can be active at any time.

- **RuPay -** It is a card scheme, conceived and launched by the National Payments Corporation of India to fulfil the Reserve Bank of India's vision to have a domestic, open and multilateral system of payments.

- RuPay facilitates electronic payment at all Indian banks and financial institutions.

- **IRCTC -** Through the mobile app by Indian Railway Catering and Tourism Corporation Limited (**IRCTC**) consumers need not stand

in long queues and can book e-tickets from home.

- **GeM -** It is an e-commerce portal or the government e-Marketplace, which has been created to allow government departments to buy their requirements from various vendors without cash or physical payments.

- **UMANG App-** UMANG (Unified Mobile Application for New-age Governance) is a Government of India all-in-one single unified secure multi-channel multi-platform multi-lingual multiservice freeware mobile app for accessing over 1,200 central and state government services in multiple Indian languages over Android, iOS, Windows and USSD (feature phone) devices, including services such as AADHAAR, Digi Locker, Bharat Bill Payment System, PAN, EPFO services, PMKVY services, AICTE, CBSE, tax and fee or utilities bills payments, education, job search, tax, business, health, agriculture, travel, Indian railwaytickets bookings, birth certificates, e-District, e-Panchayat, police clearance, passport, other utility services

from private companies and much more.

- **SWAYAM -** It is an online education programme initiated by the Government of India to achieve the principles of education policy by providing access, equity and quality.

- The objective of this effort is to take the best teaching learning resources to all, including the most disadvantaged.

- The Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM) seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.

5. ONLINE LEARNING IN LOCKDOWN

What are the measures announced for Education under AatmaNirbhar Bharat Abhiyan?

- A comprehensive initiative called **PM e-VIDYA** will be launched which unifies all efforts related to digital/online/on-air education.

- This will enable multi-mode access to education, and includes-

- DIKSHA (one nation-one digital platform) which will now become the nation's digital infrastructure for providing quality e-content in school education for all the states/UTs;

- TV (one class-one channel) where one dedicated channel per grade for each of the classes 1 to 12 will provide access to quality educational material;

- SWAYAM online courses in MOOCS format for school and higher education;

- IITPAL for IITJEE/NEET preparation;

- Air through Community radio and CBSE Shiksha Vani podcast;

- Study material for the differently abled developed on Digitally Accessible Information System (DAISY) and in sign language on NIOS website/ YouTube.

- This will benefit nearly 25 crore school going children across the country.

- The **Manodarpan initiative** is being launched to provide such support through a website, a toll-

free helpline, national directory of counselors, interactive chat platform, etc.

- This initiative will benefit all school going children in the country, along with their parents, teachers and the community of stakeholders in school education.

- Government is **expanding e-learning in higher education** – by liberalizing open, distance and online education regulatory framework.

- Top 100 universities will start online courses.

- Also, online component in conventional Universities and ODL programmes will also be raised from present 20% to 40%.

- This will provide enhanced learning opportunities to nearly 7 crore students across different colleges and Universities.

- There is a need to promote critical thinking, creative and communication skills, along with experiential and joyful learning for the students focussing on learning outcomes.

- The curriculum must be rooted in the Indian ethos and integrated with global skill requirements.

- Therefore, it has been decided to prepare a new **National Curriculum and Pedagogical Framework** for school education, teacher education and early childhood stage to prepare students and future teachers as per global benchmarks.

- A **National Foundational Literacy and Numeracy Mission** will be launched, for ensuring that every child in the country necessarily attains foundational literacy and numeracy in Grade 3 by 202 For this, teacher capacity building, a robust curricular framework, engaging learning material – both online and offline, learning outcomes and their measurement indices, assessment techniques, tracking of learning progress, etc. will be designed to take it forward in a systematic fashion.

- This mission will cover the learning needs of nearly 4 crore children in the age group of 3 to 11 years.

What are the recent changes that can be witnessed because of COVID - 19?

- People started to identify alternative platforms for reading newspapers, magazines, books,

journals etc. and their dependence on e-content increased multifold.

- Many public and private schools immediately initiated engaging online classes, and home assignments were provided online.

- Even both the public and private universities/colleges streamed video lectures with the use of various platforms.

- These efforts of the institutions are in sync with the UGC Regulation 2016, which higher education institutions to provide 20 per cent of total course through online platform SWAYAM.

- Soon the online streaming of lectures started concerns, like lack of technology, absence of appropriate digital training and issues related to the bandwidth surfaced.

- The use of Education Technology (ET)/Information & Communication Technology (ICT) in imparting education/learning is on the driver's seat during the lockdown period globally.

- It has become inevitable tool in reaching to students and all such people in imparting teaching & learning.

- Internet is the most useful technology of modern times not only in our daily lives but also for educational purposes.

- Importance of internet in education goes without saying; it helps the students to research things, and relearn the content taught / discussed in their classrooms.

What are the challenges in this scenario?

- Providing equity in access of bandwidth and technology among the majority of the remote learners in country is going to be the biggest challenge besides the immediate availability of adequate numbers of trained manpower (both the content & technical experts).

- The mindset of both the facilitators (teachers/content experts) & taught is going to take some time in coping with the adaptability.

- The awareness narratives are essential for the parents to accept the possible shift in learning paradigm.

6. eNAM- PLATFORM FOR MARKETING

What is eNAM?

- National Agriculture Market (eNAM) 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 Shri Narendra Modi.

- 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.

- The NAM portal provides a single window service for all APMC related information and services which includes commodity arrivals, quality & prices, provision to respond to trade offers and electronic payment settlement directly into farmers' accounts and helping them for better market access.

How is eNAM different from conventional Mandi system?

- eNAM is not a parallel marketing structure but rather a device to create a national network of physical mandis which can be accessed online.

- It seeks to leverage the physical infrastructure of the mandis through an online trading portal, enabling buyers situated even outside the Mandi/ State to participate in trading at the local level.

How does eNAM operate?

- The eNAM electronic trading platform has been created with an investment by the Government of India (through the Ministry of Agriculture & Farmers' Welfare).

- It offers a "plug-in" to any market yard existing in a State (whether regulated or private).

- The special software developed for eNAM is available to each mandi which agrees to join the national network free of cost with necessary customization to conform to the regulations of each State Mandi Act.

Do the conventional Mandis lose business due to eNAM?

- Mandis do not lose any business.

- eNAM basically increases the choice of the farmer when he brings his produce to the mandi for sale.

- Local traders can bid for the produce, as also traders on the electronic platform sitting in other State/ Mandi.

- The farmer may choose to accept either the local offer or the online offer.

- In either case the transaction will be on the books of the local mandi and they will continue to earn the market fee.

- In fact, the volume of business will significantly increase as there will be greater competition for specific produce, resulting in higher market fees for the mandi.

7. GOING ONLINE AS LEADERS (GOAL)

What is GOAL (Going Online As Leaders) program is all about?

- GOAL (Going Online As Leaders) is the flagship program of Facebook and Ministry of Tribal Affairs, designed to empower tribal youth through mentorship, leadership training, and digital literacy skills.

- The purpose behind GOAL is to not only increase the number of tribal-owned businesses in India, but also create role models within the tribal community, who can further serve as an inspiration and help the tribal youth explore, learn, and grow.

- After all, knowledge builds confidence that transforms us to become agents of justice and break down barriers into opportunities.

How the program is structured?

- In this program, 5000 scheduled tribe youth (to be called as 'Mentees') will get an excellent opportunity to get training by experts from different disciplines

and fields (to be called as 'Mentors').

- There will be 1 mentor for 2 mentees.

- The program aims to enable Scheduled Tribe (ST) youth in remote areas to use digital platforms for sharing their aspirations, dreams and talent with their mentors.

How the mentors and mentees are selected?

- The mentees and mentors will be selected based on their inputs in such a way that it represents tribal youth from varied professions and has representation from urban and rural area across India.

- The IT based system is designed to match mentors and mentees so that they are from similar profession and preferably speak same language.

- The selected mentees will remain engaged in the program for nine months or 36 weeks comprising of 28 weeks of mentorship followed by eight weeks of internship.

- The program will focus on three core areas – Digital Literacy, Life Skills and Leadership and Entrepreneurship, and on sectors such as Agriculture, Art & Culture, Handicrafts & Textiles, Health, Nutrition, among others.

- At least 250 Fellows who are getting scholarship from Ministry of Tribal Affairs under National Scholarship and Fellowship Scheme and are part of Tribal Talent Pool will also be mentored through the program.

What will be the benefits under the program?

- All the selected mentees will be provided with smartphones and Internet access (for one year) by Facebook along with exposure to various external forums that will give opportunity to the participants to showcase their entrepreneurial skills and leadership abilities.

- The program will also create awareness amongst tribal beneficiaries about various schemes initiated by Central and State Governments for welfare of STs as well as their fundamental duties.

- Efforts will be made to integrate the program with other government schemes such as Mudra Yojana, Kaushal Vikas Yojana, Jan Dhan Yojana, Skill

India, Start Up India, Stand Up India, among others.

- This will enable participants to leverage opportunities provided under these government schemes.

8. TROPICAL CYCLONES

What is meant by Tropical Cyclone?

- A tropical cyclone is a rapidly rotating storm system characterized by a low-pressure center, a closed low-level atmospheric circulation, strong winds, and a spiral arrangement of thunderstorms that produce heavy rain or squalls.

- Depending on its location and strength, a tropical cyclone is referred to by different names, including hurricane, typhoon, tropical storm, cyclonic storm, tropical depression, and simply cyclone.

How are the cyclones named?

- Cyclones that form in every ocean basin across the world are named by the regional specialised meteorological centres (RSMCs) and Tropical Cyclone Warning Centres (TCWCs).

- There are six RSMCs in the world, including the India Meteorological Department (IMD), and five TCWCs.

- As an RSMC, the IMD names the cyclones developing over the north Indian Ocean, including the Bay of Bengal and Arabian Sea, after following a standard procedure.

- The IMD is also mandated to issue advisories to 12 other countries in the region on the development of cyclones and storms.

- In 2000, a group of nations called WMO/ESCAP (World Meteorological Organisation/United Nations Economic and Social Commission for Asia and the Pacific), which comprised Bangladesh, India, the Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand, decided to start naming cyclones in the region.

- After each country sent in suggestions, the WMO/ESCAP Panel on Tropical Cyclones (PTC) finalised the list.

Why is it important to name cyclones?

- Adopting names for cyclones makes it easier for people to

remember, as opposed to numbers and technical terms.

- Apart from the general public, it also helps the scientific community, the media, disaster managers etc.

- With a name, it is easy to identify individual cyclones, create awareness of its development, rapidly disseminate warnings to increased community preparedness and remove confusion where there are multiple cyclonic systems over a region.

What are the guidelines to adopt names of cyclones?

- While picking names for cyclones, here are some of the rules that countries need to follow.

- If these guidelines are following, the name is accepted by the panel on tropical cyclones (PTC) that finalises the selection.

- The proposed name should be neutral to (a) politics and political figures (b) religious believes, (c) cultures and (d) gender

- Name should be chosen in such a way that it does not hurt the sentiments of any group of population over the globe

- It should not be very rude and cruel in nature

- It should be short, easy to pronounce and should not be offensive to any member

- The maximum length of the name will be eight letters

- The proposed name should be provided with its pronunciation and voice over

- The names of tropical cyclones over the north Indian Ocean will not be repeated. Once used, it will cease to be used again. Thus, the name should be new.