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Daily News Discussion (DND)

20th & 21st July 2021

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Note -

- The Newspaper clippings pasted in PDF are important from Mains point of view as it contains the fodder material for Mains Answer Writing.
- Also watch DND video lectures everyday @ 4 PM on Sleepy's YouTube channel in order to understand how to get the most out of everyday's Newspaper .

Click [here](#) to watch the following topics on YouTube

1. Environment

1.1. Illegal Construction on Bank of River Ganga

- The National Green Tribunal (NGT) in its judgment on M.C. Mehta vs Union of India and ors. Case offered an interim measure to restrict illegal construction on the Bank of River Ganga

Plain areas

- At least **100m from middle of the river** would be treated and dealt with as '**Eco sensitive and prohibited zone**'.
- **No activity whether permanent or temporary in nature** will be permitted to be carried on in this zone including camping.
- The area upto 200 meters shall be the prohibited area in the plain terrain
- Area **more than 200 meters and less than 500 meters** would be treated as **regulatory zone**
- The **regulatory activity shall be notified by the State** and till that time there shall be no construction activity permitted in that area

Hilly areas

- In the area falling within 50 mtrs from edge of the river in the hilly terrain, no construction would be permitted, nor any other activity carried out and it shall be treated as Prohibitory Zone.
- **Beyond 50 mtrs and up to 100 mtrs** in the hilly terrain it shall be treated as Regulatory Zone.
- **Regulatory activity** shall be **notified by the State** and till that time there shall be no construction activity permitted in that area.
- Once **the river enters the plain or even hilly areas** where width of the river is more than 70 mtrs, in that event area of 100 mtrs from the edge of the river shall be treated as Prohibitory Zone while **100 mtrs to 300 mtrs would be treated as Regulatory Zone** and till the time the State notifies the restricted activities, there shall be no construction activity even in the Regulatory Zone.

2. Science & Technology

2.1. Monkey B virus

- China has reported the first death case with Monkey B virus (BV) .

Monkey B virus

- The virus, **initially isolated in 1932**, is an alphaherpesvirus enzootic in macaques of the genus *Macaca*.
- B virus is the **only identified old-world-monkey** herpesvirus that displays severe pathogenicity in humans.

Transmission

- The infection can be transmitted via **direct contact and exchange of bodily secretions of monkeys** and has a fatality rate of 70 per cent to 80 per cent.
- Macaque **monkeys commonly have this virus**, and it can be found in their **saliva, feces (poop), urine (pee), or brain or spinal cord tissue**.
- The virus **may also be found in cells coming from an infected monkey in a lab**.
- B virus **can survive for hours on surfaces**, particularly when moist

When can a human get infected with B virus?

- Humans can get infected **if they are bitten or scratched** by an infected monkey
- Get an infected monkey's tissue or fluid on broken skin or in eyes, nose, or mouth
- Scratch or cut oneself on a **contaminated cage** or other sharp-edged surface or get exposed to the brain (especially), spinal cord, or skull of an infected monkey

Are there any cases of human-to-human transmission?

- Till date, **only one case has been documented of an infected person spreading B virus to another person**.

Who are at higher risk for infection?

- The virus might pose a potential threat to **laboratory workers, veterinarians**, and others who may be exposed to monkeys or their specimens.

Symptoms

- Start within **one month of being exposed to B virus**, but could appear in as little as three to seven days
- The first indications of B virus infection are typically **flu-like symptoms such as fever and chills, muscle ache, fatigue and headache**, following which an infection person may develop small blisters in the wound or area on the body that came in contact with the monkey.
- Some other symptoms of the infection include **shortness of breath, nausea and vomiting, abdominal pain and hiccups**.

- As the disease progresses, the virus spreads to and causes inflammation (**swelling**) of the **brain and spinal cord**, leading to neurologic and inflammatory symptoms

2.2.Zero-click attack spyware

- One of the worrying aspects of the **Pegasus spyware** is how it has evolved from its earlier spear-phishing methods using text links or messages to 'zero-click' attacks which do not require any action from the phone's user

How do zero-click attacks work?

- A zero-click attack helps spyware like **Pegasus** **gain control over** a device without human interaction or human error.
- So all awareness about **how to avoid** a phishing attack or which links not to click are **pointless** if the target is the system itself.
- Most of these attacks exploit software which receive data even before it can determine whether what is coming in is trustworthy or not, like an email client.
- Can zero-click attacks be prevented?
- Zero-click attacks are **hard to detect** given their nature and hence even harder to prevent.
- Detection **becomes even harder in encrypted environments** where there is no visibility on the data packets being sent or received.
- One of the things users can do is to **ensure all operating systems and software are up to date so that** they would have the patches for at least vulnerabilities that have been spotted.
- Also, it would make sense to not sideload any app and to download only via Google Play or Apple's App Store.



2.3.3D Robotic Motion Phantom

- Scientists Develop Novel & Cheap 3D Robotic Motion Phantom that can Reproduce Human Lung Motion

3D Robotic Motion Phantom

- A group of Indian scientists have developed a novel and cheap 3D robotic motion phantom that can **reproduce the lung motion of a human during breathing.**
- The phantom is **part of a platform not only emulates the human lung motion as a patient is breathing but can also be used to check if the radiation is being correctly focussed** on a moving target.
- The phantom is **placed inside a CT scanner** on the bed in place of the human, and it emulates human lung motion as it is irradiated during therapy.
- During irradiation, consistently high-quality images of advanced 4D radiation therapy treatments are obtained with minimum exposure of the patients and workers. Before the targeted radiation is delivered to a human subject, its effectiveness in focusing only on the tumor is checked with this phantom.

Significance

- This is the first time in India for manufacturing this type of robotic phantoms, and it is **more affordable** than other imported products available in the market as the program can be changed to produce different types of lung motion.
- **Breathing motion is a hurdle for delivering focused radiation** dose to the cancer tumour attached to upper abdomen and thoracic regions.
- The **motion exposes an area larger** than the tumour to radiation during cancer treatment, thus affecting tissues surrounding the targeted tumour.
- **A focused radiation for a patient could be customised by simulating the lung movement of the particular patient** and then orienting the delivery of the radiation so that it can be effective with minimal dosage.
- Before this is done on a human, **its effectiveness needs to be checked on a robotic phantom.**

2.4.NEA Scout

- Recently NASA announced that its new spacecraft, named NEA Scout, has completed all required tests and has been safely tucked inside the Space Launch System (SLS) rocket.

NEA Scout

- It is a small spacecraft, about the size of a big shoebox.
- Its main mission is to **fly by and collect data from a near-Earth asteroid.**
- It will **also be America's first interplanetary** mission using a special solar sail propulsion

- NEA Scout is one of several payloads that will hitch a **ride on Artemis I**, which is expected to be launched in November.
- **Artemis I** will be an **uncrewed testflight** of the Orion spacecraft and SLS rocket.
- Under the **Artemis programme**, NASA has aimed to **land the first woman on the Moon in 2024** and also establish sustainable lunar exploration programs by 2030.

Solar sail propulsion

- This type of propulsion is especially **useful for small, lightweight spacecraft** that cannot carry large amounts of conventional rocket propellant.
- The large-area sail will **generate thrust by reflecting sunlight**.
- **Energetic particles of sunlight bounce off the solar sail to give it a gentle, yet constant push.**
- Over time, **this constant thrust can accelerate the spacecraft** to very high speeds, allowing it to navigate through space and catch up to its target asteroid.

How will it study the asteroid?

- NEA Scout is equipped with special cameras and can take pictures
- The images gathered by NEA Scout will **provide critical information** on the asteroid's physical properties such as orbit, shape, volume, rotation, the dust and debris field surrounding it, plus its surface properties

2.5.Internet through balloon

- Recently, the US has planned to transmit the Internet to the people in Cuba via **high-altitude balloons** when their government has blocked access.

Can Internet be delivered by balloon?

- **Yes.** For years, Alphabet — the parent company of Google — worked to perfect an Internet-balloon division service **called Loon**.
- It **shut down that project in January**, saying it wasn't commercially viable.
- Prior to the shutdown, Loon balloons had been providing service in mountainous areas in Kenya through a partnership with a local telecom, Telkom Kenya.
- The service also **helped provide wireless communications** in Puerto Rico in the aftermath of Hurricane Maria, which destroyed the island's mobile network

How does that work?

- The Loon balloons were effectively **cell towers** the size of a tennis court.
- They **floated 60,000 to 75,000 feet (18,000- 23,000 meters)**, above the Earth, **well above commercial jetliner routes**.
- **Made of the commonplace plastic polyethylene**



- The balloons **used solar panels for electricity** and could deliver service to smartphones in partnership with a local telecom.
- **Each balloon could serve thousands of people**
- But they **had to be replaced every five months** or so because of the harsh conditions in the stratosphere.
- And the balloons **could be difficult to control**.

What equipment was required?

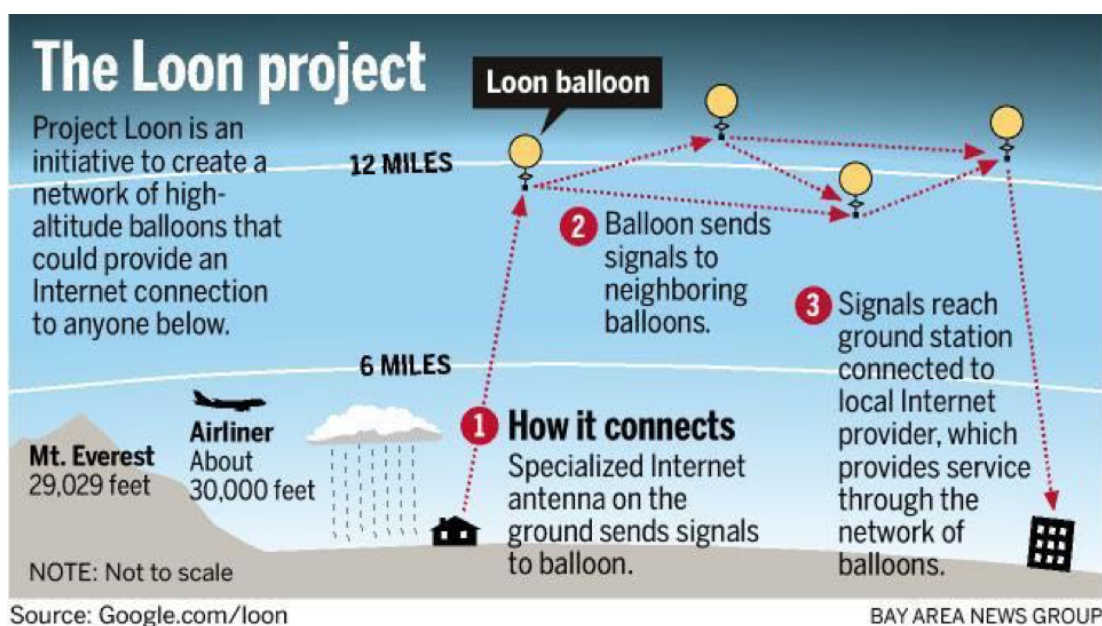
- Loon had said that beyond the balloons themselves, it **needed network integration with a telecom to provide service** and some equipment on the ground in the region.
- It also **needed permission from local regulators** — something that the Cuban government isn't likely to grant

Feasibility

- But experts aren't sure it would be that easy to set up a guerrilla Internet service for Cuba this way.
- It would **need an unused band of spectrum**, or radio frequencies, to transmit a connection to Cuba, and spectrum use is typically **controlled by national government**

What is Internet access like in Cuba?

- Starting in December 2018, **Cubans could get Internet access on their phones through the state telecom monopoly**.
- **More than half of Cubans today have Internet access**.
- **But the Cuban government restricts independent media and censors what's available to Cubans online**, according to Human Rights Watch.
- It disrupts Internet access in an attempt to head off protests



3. Geography

3.1. GPlates technology

- The research from the Earth byte research group, University of Sydney, pointed to a **developing software called GPlates that can model Earth in four dimensions to discover these ancient copper deposits.**

Copper deposits

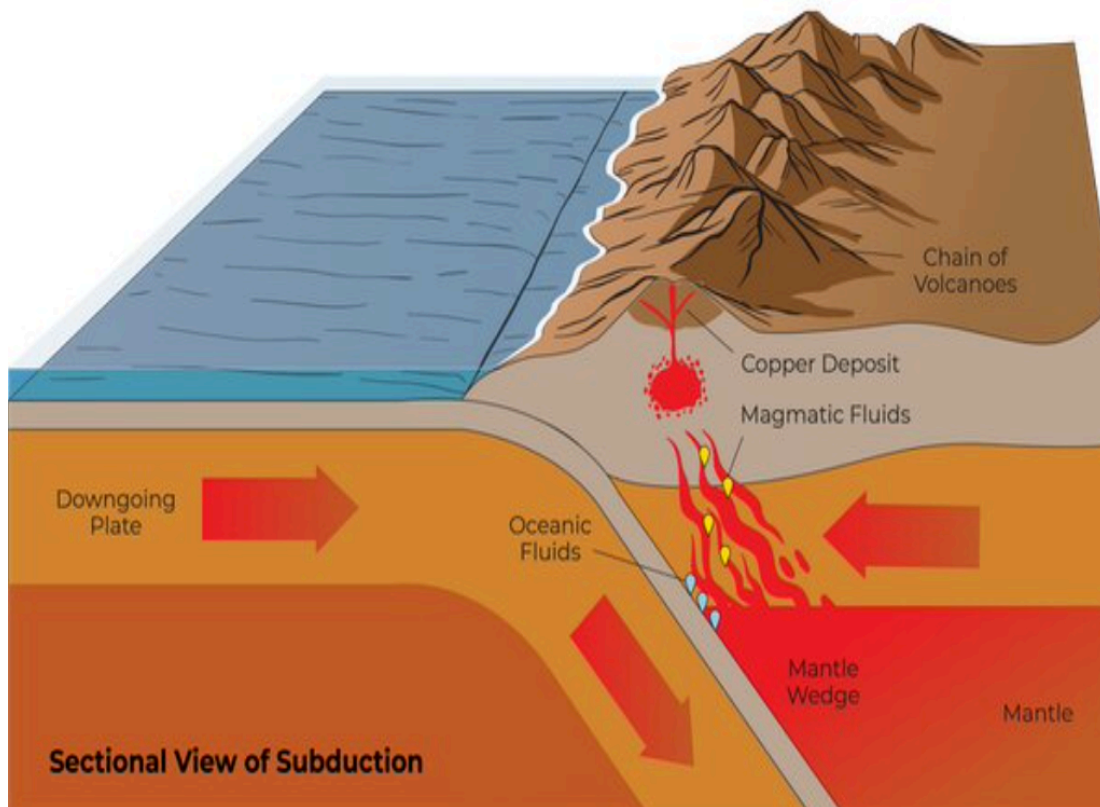
- Copper deposits are **locked up in remote locations**, including the volcanic mountain chains such as the Andes and the Rocky Mountains.
- When tectonic plates **converge, one plate slides beneath the other** and descends into the Earth's mantle at rates of 2-8 centimetres a year.
- The process creates a variety of magmatic rocks (formed through the cooling and solidification of magma or lava) and copper deposits along the edge of the continent. The process is called subduction.
- The region of the Earth's crust where the tectonic plates meet is called the subduction zone. Porphyry copper systems, the most viable source of economic copper, occur along magmatic belts derived in subduction zones.

Why is copper needed

- Clean energy technologies need **new material demands.**
- Copper is an excellent conductor of thermal and electrical energy
- The power systems that **utilise this metal generate and transmit energy** with high efficiency and with minimum environmental impacts.
- Use of **copper in energy systems, therefore, helps reduce carbon dioxide** emissions.
- It can also be **recycled completely many times** over without any loss in performance.
- The **global need for copper**, however, could **increase by 350 per cent by 2050**, according to a 2016 study published in journal *Science Direct*.
- The study underlined that the **current reserves could deplete between 2035 and 2045**, as wind and solar energy gains more traction and more people shift to electric vehicles.

GPlate technology

- It is a software that **uses machine learning to understand the link between copper deposits and the evolution of the subduction zone.**
- Artificial intelligence **measures how fast the tectonic plates are moving towards each other, how far the plate is from the subduction zone, how much copper there is in the crust, etc.**



Grade Analysis

During the year 2018-19, the average copper content in the ore produced was 0.87% Cu as against 0.90% in the previous year. All India average metal content of ore treated during the year works out to 0.89% Cu and 0.91% Cu for 2018-19 and 2017-18 respectively. The copper content in the ore treated varies from State to State. It was 0.79% Cu in Jharkhand, 0.86% Cu in Madhya Pradesh and 0.96% Cu in Rajasthan. The average metal content in the concentrate produced works out to 21.70% Cu in 2018-19 as against 22.22% Cu in the previous year.

The average daily employment of labour in copper mines in 2018-19 was 3,454 as against 2,442 in the preceding year.

Largest reserves/resources of copper ore to the tune of 813 million tonnes (53.81%) are in the State of Rajasthan followed by Jharkhand with 295 million tonnes (19.54%) and Madhya Pradesh with 283 million tonnes (18.75%). Copper reserves/resources in Andhra Pradesh, Gujarat, Haryana, Karnataka, Maharashtra, Meghalaya, Nagaland, Odisha, Sikkim, Tamil Nadu, Telangana, Uttarakhand and West Bengal accounted for the remaining 7.9% of the total All India resources (Table-1).

PRODUCTION & PRICES

Copper Ore and Concentrates

The production of copper ore at 4.13 million tonnes in 2018-19 increased by 12% as compared to that in the previous year.

The metal content in the ore produced in 2018-19 works out to 36,169 tonnes as against 33,239 tonnes in 2017-18. During the year under review, 3.99 million tonnes of ore were treated for obtaining copper concentrates as against 3.70 million tonnes in 2017-18 (Tables - 2 to 4).

Production of copper concentrates at 1,55,435 tonnes in 2018-19 increased by about 9.5% as compared to that in the previous year. Madhya Pradesh was the leading producer State of copper concentrates accounting for about 53% of the production during 2018-19, followed by Rajasthan with 42% and Jharkhand with 4 per cent. The number of reporting mines was five in both the years, i.e., 2017-18 and 2018-19 (Tables-5 & 6).

3.2.How does the moon 'wobble' affect rising tides?

- According to a study published last week, the phenomenon known as wobble effect is expected to lead to more flooding here on Earth in the middle of the next decade

What is moon wobble?

- According to the Nasa, when the Moon makes its elliptical orbit, its velocity varies and alters causing our perspective of the "light side" to appear at slightly different angles.
- This is what it calls the Moon's wobble or that is how it appears to our eyes.



- It is a **cyclical shift in the moon's orbit, it is a regular swaying (Oscillation) in the moon's orbit.**
- It was first documented **way back in 1728**. This wobble takes **over an 18.6-year** period to complete. It acts as a background of **sea level rise**.

Concerns

- The study warned that we should expect this **wobble to heighten high tides in the middle of the 2030s**, but it also showed that this prediction does not apply uniformly to every coastline everywhere.
- The main cause of Earth's tides – **will combine with rising sea levels resulting from the planet's warming**
- Each wobble cycle has the **power to amplify and suppress the tides on Earth**.
- During half of the Moon's orbit of 18.6 years, the **Earth's regular tides are suppressed** i.e. high tides are lower than normal and low tides higher than normal (Current situation).
- In the **other half, the effect is reversed**, which is called the tide- amplifying phase of the Moon.

4. Economy

4.1. Dairy Investment Accelerator

- Government sets up Dairy Investment Accelerator to promote & facilitate investments in the Dairy sector

Dairy Investment Accelerator

- By **Department of Animal Husbandry & Dairying (DAHD)** under its Investment Facilitation Cell.
- It is a cross functional team constituted to **serve as the interface with investors.**
- It shall provide support across the investment cycle:

✓ Offering specific inputs for evaluation of investment opportunities

✓ Addressing queries about application to govt. schemes

✓ Connecting with strategic partners

✓ Providing on-ground assistance with state departments & relevant authorities

- Dairy Investment Accelerator is also generating awareness among investors about **Animal Husbandry Infrastructure Development fund (AHIDF).**

Animal Husbandry Infrastructure Development fund (AHIDF)

- AHIDF is one of the flagship schemes by DAHD, Government of India whereby **Rs. 15,000 crore fund has been setup for offering financial support to entrepreneurs, private companies, MSME, Farmers Producers Organizations (FPOs), and Section 8 companies.**



India's milk production

- India is the **largest milk producer** contributing 23% of global milk production.
- Annual milk production in the country has grown by 6.4% (CAGR) in the past 5 years.
- It is the single largest agricultural commodity contributing **5% of the national economy and employing 80 Mn+ farmers** directly.
- The Dairy sector has seen substantial foreign direct investment (FDI) constituting about **40% of FDI's Indian food sector.**

4.2.Vintage vehicles policy

- India will usher in a new regime for vintage motor vehicles soon through a new policy intervention

Vintage vehicles

- Currently, the **Central Motor Vehicle Rules (CMVR), 1989** do not define what vintage vehicles are.
- The **new policy** will insert new clauses to bring a standard definition and how such vehicles cannot be used
- The term will cover **any vehicle, four- or two-wheeler, which is more than 50 years old from the date of first registration** after first sale, including any vehicle imported into India.

Conditions

- Such vehicles should be **maintained in its original form**
- Should **not have undergone any substantial overhaul** that includes any modification in chassis or body shell, and/or engine.

What will the new policy allow?

- It seeks to mandate that such vehicles **cannot be used for commercial** purposes or put to regular use.
- This means **you cannot use your vintage vehicle to, say, commute to work.**
- Other than that, the owners **can use** their vintage cars in any way wish — such as an **exhibition, or a ride from time to time**

How to register these vehicles?

- Old vehicles already carry their registration numbers, which will continue.
- For **new ones, like imported vintage vehicles or old Indian cars over 50 years old** seeking to enter the vintage category, a **new numbering system will come into effect.**
- These vehicles will **carry a registration plate** displaying the **state code in two letters followed by VA for vintage**, then a two-letter series and finally a four-digit series between 0001 to 9999 allotted by the state registering authority.
- **Registration information** will be on the **Parivahan portal** of the Ministry of Road Transport and Highways.
- New vintage vehicles can be registered for **Rs 20,000; re-registration/ renewal will cost Rs 5,000.**
- Every application for registration will have to be **accompanied by a policy of insurance, appropriate fee**, bill of entry in case of imported vintage motor vehicles, and old registration certificate in case of a vehicle already registered in India.
- The **registration certificate will be valid for 10 years**, renewable thereafter.
- **Sale and purchase** of vehicles registered as vintage is permissible; the buyer and seller have to **inform their respective State Transport Authorities.**

Will the upcoming vehicle scrappage policy apply to these vehicles?

- **No.** Vintage vehicles are insulated from the scrappage policy.
- If a vehicle is **more than 15 years old but within 50 years**, the owner can continue to keep it by passing **fitness tests every five years**.

How are vintage vehicles treated internationally?

- Internationally, the term **“classic”** is used to describe any car that is about **two decades old**.
- In the **UK**, cars **more than 40 years old are vintage**. All such vehicles are **exempted from paying the annual road tax**, vehicle excise duty, and also exempt from the annual UK safety test.
- In the **US**, the rules of defining the classics vary as per states

4.3.Dragon fruit

- The dragon fruit, which is indigenous to the Americas, **can grow in arid and semi-arid regions with very low input cost**

The dragon fruit (*Hylocereus undatus*) is

- **indigenous to the Americas.**
- Its name comes from its appearance — **leather-like skin and scaly spikes** on the exterior of the fruits.
- It is also known as **‘Pitaya’, ‘Pitahaya’, strawberry pear, noblewoman** and queen of the night throughout the world

India

- The dragon fruit was introduced to home gardens in India in the 1990s.
- It gained **wider popularity** among farmers due to its profitability and the fact that it needed lower inputs once established.
- The plant **sustains yield for more than 20 years**, is high in nutraceutical properties and good for value-added processing industries.
- This has led to a **steep increase in dragon fruit cultivation** in Maharashtra, Karnataka, Andhra Pradesh, West Bengal, Telangana, Tamil Nadu, Odisha, Gujarat and the Andaman and Nicobar Islands, as well as in many north eastern states.
- India produces approximately 12,000 tonnes of the fruit every year.
- The fruit can be exported to Persian Gulf countries, the European Union and the United States.
- **In June 2021**, India exported its **first consignment of dragon fruit from a farmer of Maharashtra to Dubai in the United Arab Emirates**

Conditions for growth

- It is hardy and grows in diverse climatic conditions with varied soils, especially in the semi-arid and arid regions of India.
- It **prefers slightly acidic soil** and can tolerate some salts in soil too.

- Dragon fruit is a fast-growing, semi-epiphytic vine that requires vertical pole-like support with a ring at the top
- Flowering and fruiting of dragon fruits coincide with the monsoon season in India.
- Its flowers are hermaphrodites (male and female organs in the same flower) in nature and open at night. Nocturnal agents such as bats and hawk moths act as pollinators.
- Fruits are ready to be harvested 30-35 days after flowering.
- Each fruit weighs around 200 to 700 grams, depending on management practices.
- In well-managed orchards, economic fruit yields start after three years and the average yield can be up to five tonnes per acre.

Varieties in India

- In India, farmers cultivate three main varieties (by colour): **White flesh with pink skin, red flesh with pink skin and white flesh with yellow skin.**

Tackling sunburn

- Generally, **sunburn is a common problem in semi-arid and arid tracts** and it can be managed by providing **25-30 per cent shade** either by planting shade-providing trees (such as moringa, sesbania and *Melia dubia*) or installing artificial shade nets during the harsh summer months.
- In the **Baramati region of Maharashtra, farmers are integrating moringa (Odyssey or PKM 1 variety) at a density of 100-120 trees per acre** in the dragon fruit orchard.
- This not only helps to **reduce sunburn but also augments income due to the sale of moringa pods** during February-May.
- But high density planting of shade trees in dragon fruit orchards may also **invite pest and disease issues** due to high humidity and less air circulation
- To encash on the popularity of the dragon fruit, many farmers and stakeholders have jumped into the nursery business and are selling cuttings at the rate of Rs. 30 to 80 per plant.
- As of today, the **Government of Maharashtra has taken the initiative to promote dragon fruit cultivation** in different areas of the state by providing good quality planting material and subsidies for its **cultivation through the Mission on Integrated Development of Horticulture.**
- An increase in the area under cultivation and production of the dragon fruit will **make India self-reliant** by reducing imports.
- It is a fruit that is affordable and nutritious for the poor and adds to the income of the farmer.

Full year Current Affairs Revision through MCQs

Economy – Day 9

1. Consider the following statements :

1. Quota is a trade policy tool where a country stipulates that only a limited quantity of a particular commodity can be imported during a year.
2. Bound rate is the minimum rate of duty (tariff) that can be imposed by the importing country on an imported commodity
3. No country can raise duties above the bound rate it has committed.

Select the correct answer using the code given below:

- A. 1 only
- B. 1 and 2 only
- C. 1 and 3 only
- D. All of the above

2. Consider the following statements in context to inverted duty structure (IDS) :

1. It is a situation where import duties on finished products are higher than on input goods.
2. High IDS encourage import of finished goods as compare to raw material.

Select the correct answer using the code given below:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. None of the above

3. Consider the following statements in context to Information Technology Agreement (ITA) :

1. It seeks to accelerate and deepen the reduction of trade barriers for the critically important ICT industry.
2. It is the outcome of Budapest convention.
3. India is not a signatory to ITA

Select the correct answer using the code given below:

- A. 1 only
- B. 2 and 3 only
- C. 1 and 3 only



D. All of the above

4. Consider the following statements in context to Internationalisation of the rupee :

1. It means currency can be freely transacted by resident and non- residents also.
2. It can potentially limit the ability of the central bank to control domestic money supply.
3. It will increase risk of foreign exchange exposure for Indian corporate

Select the correct answer using the code given below:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. All of the above

5. 'Zombie firms' often in news, is related to:

- A. Firms with excess capital
- B. Firms with no excess capital to spur growth
- C. Firms with frontier technology
- D. Firms focus on export only