1. Philippines Approves Deal for BrahMos Missile

- In the first export order for the BrahMos supersonic cruise missile system, the Philippines has approved a $374.96 mn contract for the purchase of a shore-based anti-ship variant of the missile from India.

BrahMos Missile:

- BrahMos missile derives its name from the combination of the names of Brahmaputra and Moskva Rivers.
- They are designed, developed and produced by BrahMos Aerospace, a joint venture company set up by DRDO and Mashinostroyenia of Russia.
- It is a two-stage missile with a solid propellant booster as the first stage and liquid ramjet as the second stage.
- The cruise missiles like BrahMos are a type of system known as the 'standoff range weapons' which are fired from a range sufficient to allow the attacker to evade defensive fire from the adversary.
- Such weapons are in the arsenal of most major militaries in the world.

Its Capability:

- BrahMos missile flies at a speed of 2.8 Mach or almost three times the speed of sound.
- It is the main weapon system of the Indian Navy warships and has been deployed on almost all of its surface platforms.
- An underwater version is also being developed which will not only be used by the submarines of India but will also be offered for export to friendly foreign nations.

Various Versions:

- The versions of the BrahMos that are being tested have an extended range of around 400 km, as compared to its initial range of 290 km, with more versions of higher ranges currently under development.
- Various versions including those which can be fired from land, warships, submarines and Sukhoi-30 fighter jets have already been developed and successfully tested in the past.
- The earliest versions of the ship launched BrahMos and land-based system are in service of the Indian Navy and the Indian Army since 2005 and 2007 respectively.

2. Taxing Cryptocurrency Transactions

- Notwithstanding the eventual introduction of the Cryptocurrency and Regulation of Official Digital Currency Bill in Parliament, cryptocurrencies continue to proliferate.

Provisions in Income Tax Act 1961 to Tax Cryptocurrencies:

- Cryptocurrencies not mentioned in Income Tax Act, 1961: Although the Income Tax Act, 1961 ("IT Act") does not specifically mention cryptocurrencies, it does cast a wide enough net to bring crypto transactions under its ambit.
- Capital asset: Trading in cryptocurrency may be classified as transfer of a 'capital asset', taxable under the head 'capital gains.
- Business income: If such cryptocurrencies are held as stock-in trade and the taxpayer is trading in them frequently, the same will attract tax under the head 'business income'.
- Even if one argues that crypto transactions do not fall under the above heads, Section 56 of the IT Act shall come into play, making them taxable under the head 'Other sources of income'.

Challenges in Taxing Cryptocurrencies

- The above provisions in themselves are not sufficient in order to put in place a simple yet effective taxation regime for cryptocurrencies.

Varied Interpretations:

- First, the absence of explicit tax provisions has led to uncertainty and varied interpretations being adopted in relation to mode of computation, applicable tax head and tax rates, loss and carry forward, etc.
- For instance, the head of income under which trading of self-generated cryptocurrency (currencies which are created by mining, acquired by air drop, etc.) is to be taxed is unclear.
- Since there is no consistency in the rates provided by the crypto-exchanges, it is difficult to arrive at a fair market value.
- Similarly, when a person receives cryptocurrency as payment for rendering goods or services, how should one arrive at the value of the said currency and how should such a transaction be taxed?

Identifying Tax Jurisdiction

- It is often tricky to identify the tax jurisdiction for crypto transactions as taxpayers may have engaged in multiple transfers across various countries and the cryptocurrencies may have been stored in online wallets, on servers outside India.

The Anonymity of Taxpayer

- The identities of taxpayers who transact with cryptocurrencies remain anonymous.
- Exploiting this, tax evaders have been using crypto transactions to park their black money abroad and fund criminal activities, terrorism, etc.

Lack of third-party information on crypto transaction

- The lack of third party information on crypto transactions makes it difficult to scrutinise and identify Instances of Tax Evasion.
- One of the most Efficient Enforcement tools in the hands of Income Tax Department is CASS or 'computer aided scrutiny selection' of assessments, where returns of taxpayers are selected inter alia based on information gathered from third party intermediaries such as banks.
- However, crypto-market intermediaries like the exchanges, wallet providers, network operators, miners, administrators are unregulated and collecting information from them is very difficult.

Physical Goods/Services may change hand in Return for Cryptocurrencies

- Even if the crypto-market intermediaries are regulated and follow Know Your Customer (KYC) norms, there remains a scenario, where physical cash or other goods/services may change hands in return for cryptocurrencies.
- Such Transactions are hard to trace and only voluntary disclosures from the parties involved or a search/survey operation may reveal the tax evaders.

Steps need to be taken:

- **Statutory Provision:** The income-tax laws pertaining to the crypto transactions need to be made clear by incorporating detailed statutory provisions.
- **Awareness Generation:** This should be followed by extensive awareness generation among the taxpayers regarding the same.
- **Separate Mandatory Disclosure:** The practice of having separate mandatory disclosure requirements in tax returns (as is the case in the United States) should be

placed on the taxpayers as well as all the intermediaries involved, so that crypto transactions do not go unreported.

- Strengthen international legal framework: Additionally, the existing international legal framework for exchange of information should be strengthened to enable collecting and sharing of information on crypto-transactions.
- This will go a long way in linking the digital profiles of cryptocurrency holders with their real identities.
- **Training Tax Officers:** the Government must impart training to its officers in blockchain technology.
- The United Nations Office on Drugs and Crime's 'Cybercrime and Anti-Money Laundering' Section (UNODC CMLS) has developed a unique cryptocurrency training module, which can aid in equipping tax officers with requisite understanding of the underlying Technologies.

3. BrahMos Supersonic Cruise Missile

Why in News?

- An extended range sea-to-sea variant of the BrahMos supersonic cruise missile was recently test fired from stealth guided missile destroyer INS Visakhapatnam.

Highlights:

- The BrahMos missile was initially developed with a range capped at 290 km.
- The range of the missile was Originally capped at 290 km as per obligations of the Missile Technology Control Regime (MTCR).
- However, following India's entry into the MTCR club in June 2016, the range is planned to be extended to 450 km and to 600km at a later stage.
- BrahMos is a joint venture between the Defence Research and Development Organisation of India (DRDO) and the NPOM of Russia.
- BrahMos is named on the rivers Brahmaputra and Moskva.
- It Is a two-stage (solid propellant engine in the first stage and liquid ramjet in second) missile.
- It Is a multiplatform missile i.e it can be launched from land, air, and sea and multi capability missile with pinpoint accuracy that works in both day and night irrespective of the Weather Conditions.

- It operates on the "Fire and Forgets" principle i.e it does not require further guidance after launch.
- Brahmos is one of the fastest cruise missile currently operationally deployed with speed of Mach 2.8, which is nearly 3 times more than the speed of sound.

4. Xenotransplantation

Why in News?

- Recently, in a medical first, doctors transplanted a pig heart into a patient in a last-ditch effort to save his life in the US.

Highlights:

- It involves the transplantation of nonhuman tissues or organs into human recipients.
- This is the first successful transplant of a pig's heart into a human being. However, it's too soon to know if the operation really will work.
- This time, a heart from a pig that had undergone gene-editing has been used to remove a sugar in its cells that's responsible for that hyper-fast organ rejection.
- Genome editing (also called gene editing) is a group of technologies that give scientists the ability to change an organism's Deoxy-Ribonucleic Acid (DNA).
- Prior attempts at such transplants — or xenotransplantation have failed. One of the biggest obstacles to transplantation is organ rejection.
- This has re-sparked a debate over the use of pigs for human transplants, which many animal rights groups oppose.
- This development could bring us one step closer to solving the global organ shortage.
- In India, patients need 25,000-30,000 liver transplants annually. But only about 1,500 end up receiving them.
- Pigs are increasingly becoming popular candidates for organ transplantation.
- Pigs offer advantages over primates for organ procurements, because they are easier to raise and achieve adult human size in six months.
- Pig heart valves are routinely transplanted into humans, and some patients with diabetes have received Porcine Pancreas Cells.

5. 6GW of Rooftop Solar (RTS) Power

Why in News?

- Recently, the data available on the website of the Union Ministry of New and Renewable Energy (MNRE), India could install just 6GW of Rooftop Solar (RTS) power by the end of October 2021 under the rooftop solar scheme.

Highlights:

- The major objective of the scheme is to generate solar power through the installation of solar panels on the roof of the houses.
- Also, the Ministry of New and Renewable Energy has announced the implementation of Phase 2 of the grid-connected Rooftop Solar Scheme.
- The aim of the scheme Is to achieve the final capacity of 40 GW from Rooftop Solar Projects by 2022.
- The 40GW goal Is part of India's ambitious target to achieve 175GW renewable energy (RE) capacity that includes 100GW of solar power by 2022.
- According to a report released in September, 2021, the lockdowns slowed renewable energy installations in the country and the pace of such installations is lagging India's 2022 Target.
- Although many companies began using solar energy, flip-flopping (sudden real or apparent change of policy) policies remained a major hurdle, especially when it came to power distribution companies (discoms).
- Industry executives point out RTS was becoming attractive for several consumer segments when Discoms and state governments started tightening regulations for the sector.
- India's Goods and Service Tax (GST) Council recently hiked the GST of many components of the solar system from 5% to 12%.
- It will Increase RTS's capital cost by 4-5%.