

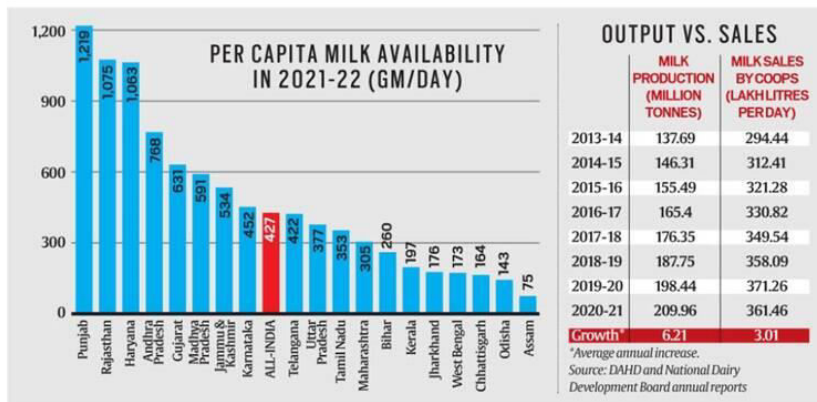
INDIAN ECONOMY

- ❖ **Pilot launch of e-rupee for specific use cases: What is the RBI's plan**
- ❖ **CONTEXT:** Recently, the Reserve Bank of India (RBI) indicated that it will soon commence limited pilot launches of e-rupee (₹), or Central Bank Digital Currency (CBDC) or digital rupee, for specific use cases. It has hinted at two broad categories for the use of e-rupee — retail and wholesale — taking the payment system in the country to a new level where the common people and businesses will be able to use the digital currency seamlessly for various transactions.
- ❖ **What's RBI's plan?**
 - According to the central bank that the development of CBDC could provide the public a risk-free virtual currency that will give them legitimate benefits without the risks of dealing in private virtual currencies.
 - The approach for issuance of CBDC will be governed by two basic considerations — to create a digital rupee that is as close as possible to a paper currency and to manage the process of introducing digital rupee in a seamless manner.
 - The central bank also feels that it is desirable for CBDCs to have offline capabilities to make it a more attractive and accessible medium of payment for a wide category of users.
 - E-rupee is the same as a fiat currency and is exchangeable one-to-one with the fiat currency.
 - Only its form is different. It can be accepted as a medium of payment, legal tender and a safe store of value. The digital rupee would appear as liability on a central bank's balance sheet.
- ❖ **What are the types of e-rupee?**
 - According to the RBI's concept note based on the usage and the functions performed by the digital rupee and considering the different levels of accessibility, CBDC can be demarcated into two broad categories — general purpose (retail) (CBDC-R) and wholesale (CBDC-W).
 - Retail CBDC is an electronic version of cash primarily meant for retail transactions. It will be potentially available for use by all — private sector, non-financial consumers and businesses — and can provide access to safe money for payment and settlement as it is a direct liability of the central bank. However, the RBI has not explained how e-rupee can be used in merchant transactions in the retail trade.
 - Wholesale CBDC is designed for restricted access to select financial institutions. It has the potential to transform the settlement systems for financial transactions undertaken by banks in the government securities (G-Sec) segment, inter-bank market and capital market more efficiently and securely in terms of operational costs, use of collateral and liquidity management.
- ❖ **What are the forms of CBDC?**
 - The central bank says e-rupee, or CBDC, can be structured as token-based or account-based. A token-based CBDC would be a bearer instrument like banknotes, meaning whosoever holds the tokens at a given point in time would be presumed to own them. In a token-based CBDC, the person receiving a token will verify that his ownership of the token is genuine. A token-based CBDC is viewed as a preferred mode for CBDC-R as it would be closer to physical cash.
 - An account-based system would require maintenance of record of balances and transactions of all holders of the CBDC and indicate the ownership of the monetary balances. In this case, an intermediary will verify the identity of an account holder. This system can be considered for CBDC-W.
- ❖ **What's the model for issuance?**
 - There are two models for issuance and management of CBDCs under the RBI's consideration — direct model (single tier model) and indirect model (two-tier model).
 - In the direct model, the central bank will be responsible for managing all aspects of the digital rupee system such as issuance, account-keeping and transaction verification.
 - An indirect model would be one where the central bank and other intermediaries (banks and any other service providers), each play their respective role. In this model, the central bank will issue CBDC to consumers indirectly through intermediaries and any claim by consumers will be managed by the intermediary.
- ❖ **What are the advantages of e-rupee?**
 - The key motivations for exploring the issuance of CBDC in India among others include reduction in operational costs involved in physical cash management, fostering financial inclusion, bringing resilience, efficiency and innovation in the payments system.
 - It will add efficiency to the settlement system and boost innovation in cross-border payments space and provide the public with uses that any private virtual currencies can provide, without the associated risks.
- ❖ **Can e-rupee be transacted in offline mode?**
 - The offline functionality as an option will allow CBDC to be transacted without the internet and thus enable access in regions with poor or no internet connectivity.
 - It will also create digital footprints of the unbanked population in the financial system, which will facilitate the easy availability of credit to them.
 - However, in the offline mode, the risk of 'double-spending' will exist because it will be technically possible to use a CBDC unit more than once without updating the common ledger of CBDC.
 - But it can be mitigated to a larger extent by technical solutions and appropriate business rules including monetary limits on offline transactions.

AGRICULTURE

- ❖ **India's agri production stats need a ground reality check**
- ❖ **CONTEXT:** India's agricultural production statistics sometimes present dissonances with consumption data. The household consumer expenditure data are more than a decade old, and an update is urgently needed.

- Consider milk. According to the National Statistical Office's (NSO) household consumer expenditure (HCE) survey for 2011-12, the monthly per capita consumption of milk was 4.33 litres in rural India and 5.42 litres in urban India. Taking an average of 5 litres (5.15 kg; 1 litre of milk = 1.03 kg), this translates into an annual consumption of nearly 75 million tonnes (mt) for a population of 1,210.85 million as per the 2011 Census.
- This figure includes only milk consumed by households — directly and as curd, butter, ghee, paneer, etc. at home. It excludes milk consumed by businesses — tea shops, hotels, and ice-cream, sweetmeat, chocolate and biscuit makers. If this milk is assumed to be 25% over and above that consumed by households, it adds up to about 94 mt — or a daily per capita availability of 212 gm.
- ❖ **What production data show**
- Going by Department of Animal Husbandry & Dairying (DAHD) statistics, India's milk production in 2011-12 was 127.9 mt with a daily per capita availability of 289 gm. These were 210 mt and 427 gm respectively in 2020-21.
- Unfortunately, there is no published HCE survey data after 2011-12. In all likelihood, the gap between the NSO's consumption-based estimates and the DAHD's production numbers would only have widened.



- Between 2013-14 and 2020-21, India's milk production grew at an average 6.2% a year. But this isn't reflected in the marketing of liquid milk by dairy cooperatives, which grew by just over 3% annually in volume terms during this period.
- In the private sector, growth in the average sales of 12 major dairy companies averaged 4.93% in nominal terms between 2014-15 and 2020-21. After adjusting for an average wholesale price inflation of 3% for "dairy products" over this period, their real sales growth was slightly more than 1.9%.

❖ **Discrepancies are glaring**

- The 6.2% growth in milk production based on official DAHD statistics does not seem to square up with the sales growth of organised dairies, averaging only 2-3% per year.
- Equally interesting is the per capita daily milk availability of 427 gm for 2020-21, which, by definition, is the average for India's population — across regions, rich and poor, babies, the young, and the aged.
- In Punjab, the average person supposedly consumes 1,219 gm or close to 1.2 litres per day; Rajasthan and Haryana are also more than 1 litre. The 2011-12 HCE survey, however, reported daily per capita milk consumption at 0.49 litres in rural Haryana and 0.37 litres in urban Haryana. The corresponding figures were 0.40 litres and 0.36 litres for Punjab, and 0.31 litres and 0.29 litres for Rajasthan.
- Even after factoring in indirect/non-household consumption and population increase since 2011-12, the per capita average for these high milk-drinking states is unlikely to exceed 0.5-0.6 litres.
- If we consider the DAHD's 427 gm figure, an average Indian family of five would be consuming more than 2 litres of milk every day, going up to 5-6 litres in Punjab, Haryana and Rajasthan.
- It's a moot point how many families can afford to spend so much on a single food item that costs Rs 40-50 per litre. On the other hand, there is a limit to how much milk the rich can consume.
- One has to probably wait for the next HCE survey to obtain more reliable estimates of milk consumption in India, which can then be reconciled with the DAHD's production data.

❖ **Demand is the key**

- Knowing what and how much Indians are consuming — which only a comprehensive nationwide HCE survey can reveal — is useful for analysis of demand and supply in other farm produce too. It helps in framing policies better, whether on fixation of minimum support prices and tariffs or on crop diversification.
- For example, the monthly per capita household consumption of all cereals in the 2011-12 survey was assessed at 11.22 kg for rural India, and 9.28 kg for urban India. At an average of 10 kg, the annual household cereal consumption requirement for 1,400 million people today would be around 168 mt. Assuming 25% additional consumption in processed form (bread, biscuits, cakes, noodles, vermicelli, flakes, etc.), and another 25 mt of grain (mainly maize) for feed or starch, the total yearly demand would be around 235 mt.
- As against this, cereal production from 2016-17 to 2020-21 has averaged 267 mt. If the Agriculture Ministry's output estimates are accurate, the country is producing 30 mt-plus of surplus grain every year — partly borne out by overflowing rice and wheat stocks in government warehouses, at least till quite recently.
- Discrepancies in production may be less for a commodity like sugar, where most of the cane is crushed by organised mills. Direct household consumption, at almost 1 kg per capita per month, would work out to 16.8 mt for a population

of 1,400 million. Indirect consumption may be another 50%, as sugar has more bulk users — including soft drink, confectionery makers — than milk or wheat. That takes the total domestic demand to 25-26 mt, compared to an average production of 32 mt in the last five years. Sugar has been prone to overproduction, with rare exceptional years.

❖ **A larger question**

- There is a more immediate reason why a new HCE survey is needed. The current consumer price index — used to calculate inflation and also for RBI's interest rate actions — is based on the consumption basket from the 2011-12 HCE survey.
- That basket is perhaps outdated and not truly representative of the items, both food and non-food, being consumed by Indian households today. And it may, to that extent, not be useful for either agriculture or monetary policy.

PRELIMS

1. **Rosetta Stone**

❖ **CONTEXT:** An object that helped create a new domain of history, is referenced in the name of Apple translation software, and is the most-visited item at the British Museum is at the centre of demands by historians in Egypt. According to a Reuters report, the UK is being asked to return the Rosetta stone, a large stone slab that has fascinated the world since its discovery around two centuries ago.

- The calls also reflect the growing acceptance towards the idea of Western countries returning historically and culturally important artefacts taken largely from the global South during the colonial era. Many such objects are housed in various museums or owned by private collectors in the West.
- The Rosetta stone is a large stone slab with inscriptions on it and is believed to be a piece of a bigger rock.
- It has inscriptions in three scripts, all of which convey a decree or public message.
- This is similar to how in Ancient India, King Ashoka ordered stambhas or edicts that had messages of Buddha's teachings and news about victory in a war inscribed.
- These were then placed throughout the kingdom for the public to see.



- The decree is inscribed three times:
 - In hieroglyphs (suitable for a priestly decree),
 - Demotic (the cursive Egyptian script used for daily purposes, meaning 'language of the people'), and
 - Ancient Greek (the language of the administration – the rulers of Egypt at this point were Greco-Macedonian after Alexander the Great's conquest).
- Therefore, the Rosetta Stone stands out for being the discovery that helped develop the specific field of ancient Egypt studies, Egyptology.
- Before it was found, there was no knowledge of what Egyptian hieroglyphs meant and how they were translated.
- But as the stone conveyed the same information in three languages, including Ancient Greek that was understood by scholars, information on hieroglyphics was finally within the grasp of modern historians.
- According to the British Museum, the engraving was done during the reign of King Ptolemy V who ruled from 204–181 BC.
- This puts the stone's age at well over 2,000 years.
- It is believed to carry messages by some priests in support of the king.
- ❖ **How did the Rosetta stone reach Britain?**
- This stone was 'rediscovered' in the time of French king Napoleon Bonaparte, who launched a campaign in Egypt from 1798 to 1801.
- It is said to have been found by Napoleon's soldiers accidentally in 1799 in the city of Rashid (called Rosetta by the French) in the Nile Delta.
- On Napoleon's defeat later at the hands of the British, the Treaty of Alexandria (1801) led to its transfer and it has been at the British Museum since then.
- ❖ **Is there a possibility of the stone's return to Egypt?**
- While this current request is not backed by the government officially, such calls have been made before.
- Dr Zahi Hawass, an Egyptologist and former Minister of State for Antiquities Affairs in Egypt, has repeatedly demanded the return of the Rosetta stone to Egyptian museums. He also modified this demand later and suggested that Britain loan the stone to Egypt for a few months, but the plan did not go through.
- However, a few requests have been getting approved of late by museums. According to a Reuters report, London's Horniman Museum said in August 2022 that it would return 72 artefacts, including the Benin Bronzes that were looted from Benin City by British soldiers in 1897, to the Nigerian government.

- Scotland's Kelvingrove Art Gallery and Museum also signed a similar deal with India in the same month, which was "thought to be the first repatriation to India from a UK museum. The seven items included 14th Century carvings and 11th Century stone door jams, that were stolen from shrines and temples in the 19th Century.
- 2. **The programming languages running the crypto- economy**
 - ❖ **CONTEXT:** The crypto ecosystem sits on top of distributed ledgers, which are broadly called blockchains. Apart from recording and verifying transactions, some crypto blockchains like Ethereum let users launch agreements or special actions that execute on their own. These are known as smart contracts and to create them effectively, programming languages are a must.
 - ❖ **The importance of programming**
 - Crypto exchanges, decentralised apps, the automated buying or selling of orders, and even NFT-based games often rely on smart contracts to run smoothly. A smart contract failure can cause platform outages, and exploitation of the codes could devalue the entire ecosystem. Programming languages thus, help crypto platforms and protocols run effectively.
 - C++ is a programming language commonly associated with Bitcoin. While the Bitcoin whitepaper explaining the peer-to-peer electronic cash system is written largely in English, the Bitcoin Core software, which makes transactions possible, uses C++. It is maintained by a community anyone can join by running Bitcoin Core full nodes. It is hailed for being an accessible programming language that users of Java, C, and C# can easily learn due to existing similarities.
 - It is also one of the most used programming languages, playing a role in the development of operating systems like MacOS and Windows, gaming devices, search engines, and even machine learning. C++ is a major influence for many other programming languages in use today.
 - However, some see C++ as an outdated programme. Mark Russinovich, Microsoft Azure's CTO, recently asked developers to stop using C and C++.
 - ❖ **Solidity, Rust and Haskell**
 - Solidity is the programming language mainly used on the blockchain platform Ethereum. Some of its developers are Ethereum co-founders. The language is influenced by C++, Python, and JavaScript. It is also known as a 'curly bracket language' as it uses the flower bracket special character. In recent times, with the Ethereum transition to a proof-of-stake model, programming skill in Solidity is expected to be in high demand. Parts of the Ethereum ecosystem also support several other programming languages such as Python, Ruby, Rust, Java, and more.
 - Rust has the unique distinction of being called the "perfect programming language" in 2021 by Twitter co-founder Jack Dorsey. Mr. Dorsey noted that Rust was a "close second" to C. In the crypto world, Rust is commonly associated with the Solana blockchain, which is known for its high speeds and relatively low transaction fees. The Polkadot blockchain, which helps to better connect blockchains with each other, also uses Rust. However, developers have complained that Rust is too difficult to learn. A 2018 survey showed that more than 22% of users did not feel productive using the programming language.
 - Some of the most valuable blockchain projects in the crypto industry don't necessarily rely on the most popular programming languages. Cardano, for example, is a blockchain that takes pride in its academic rigour and scholarly approach to the crypto sector. Its smart contract programming language is based on Haskell. The Cardano Foundation itself admits that Haskell is not well-known, and that it is not a popular programming language for beginners. Haskell is classified as a purely functional programming language, and is hard to learn. But it is said to be well-suited to deliver accurate crypto projects due to its immutability feature.
- 3. **Foreign direct product rule(FDPR)**
 - ❖ **CONTEXT:** Recently USA officials applied the foreign direct product rule, or FDPR to China's advanced computing and supercomputer industry to stop it from obtaining advanced computing chips
 - They did it to Huawei. They used it on Russia. Now, the United States is going after China's advanced computing and supercomputer industry.
 - A little-known rule that enables US regulators to extend their technology export control powers far beyond America's borders to transactions between foreign countries and China.
 - The provision called the foreign direct product rule, or FDPR, was first introduced in 1959 to control trading of US technologies.
 - It essentially says that if a product was made using American technology, the US government has the power to stop it from being sold – including products made in a foreign country.
 - Recently, US officials applied the rule to China's advanced computing and supercomputer industry to stop it from obtaining advanced computing chips.
 - The rule took center stage in August 2020, when it was used against China telecom company Huawei Technologies Co Ltd . American officials had tried to cut off Huawei's supply of semiconductors but found that companies were still shipping to Huawei chips made in factories outside the United States.
 - Eventually, US regulators found a choke point: Almost all chip factories contain critical tools from US suppliers. So they expanded the FDPR to control trade of chips made using US technology or tools. That move was a blow to Huawei's smart phone business, and US regulators used it on Russia and Belarus after the invasion of Ukraine to cut off chips.
 - However, the United States has been cautious about using the rule as it can drag foreign companies into the process and "create friction" with allies who may disagree with the application of US law.
 - The new application will stop advanced chip use in Chinese supercomputers, which can be used to develop nuclear weapons and other military applications.
 - The United States had already placed a number of Chinese supercomputing companies on a restricted entity list, cutting them off from buying US chips. But those companies started to design their own chips and seek to have them manufactured – a strategy that the US action recently were designed to thwart.

- The latest move would ban any semiconductor manufacturing firm that uses American tools – which most do – from selling advanced chips to China.
- 4. **Linking Russia to Crimean peninsula damaged (Imp- Places in News)**
- ❖ **CONTEXT:** The road-and-rail bridge linking Russia and the Crimean peninsula was damaged in a powerful blast on Saturday, hitting a crucial supply route for Russian forces in Ukraine.
- ❖ **Crimea and Russia link**
- The 19-km (12-mile) Crimea Bridge over the **Kerch Strait** is the only direct link between the transport network of Russia and the Crimean peninsula, which Moscow annexed from Ukraine in 2014.
- The bridge was a flagship project for Russian President Vladimir Putin, who opened it himself for road traffic with great fanfare by driving a truck across in 2018.
- It consists of a separate roadway and railway, both supported by concrete stilts, which give way to a wider span held by steel arches at the point where ships pass between the **Black Sea and the smaller Azov Sea**. The structure was built, at a reported cost of \$3.6 billion.
- ❖ **Why it matters**
- The bridge is crucial for the supply of fuel, food and other products to Crimea, where the port of Sevastopol is the historic home base of Russia's Black Sea Fleet.
- It also became a major supply route for Russian forces after Moscow invaded Ukraine on Feb. 24 2022, sending forces from Crimea to seize most of southern Ukraine's **Kherson region** and some of the adjoining **Zaporizhzhia province**.



ANSWER WRITING

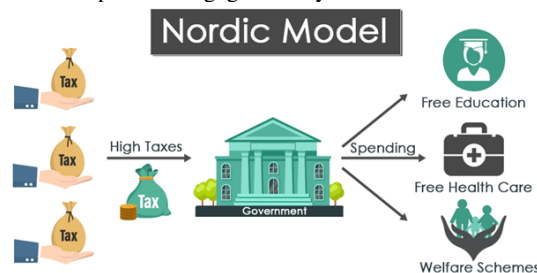
Q.- What do you mean by the Nordic Model of Democracy and discuss the advantages and disadvantages of the Nordic Model of Democracy?

Introduction

The Nordic model refers to the standards followed in Sweden, Norway, Finland, Denmark, and Iceland. These nations are known for high living standards and low income disparity.

Features of the Nordic Model of Democracy

- The model is a unique combination of Free-Market Capitalism and Social Welfare.
 - An economic system that is based on supply and demand is known as the Free Market.
 - Social Benefits are funded by taxpayers and administered by the government for the benefit of all citizens.
- It is a mixed economic system that reduces the gap between the rich and the poor through redistributive taxation and a robust public sector while preserving the benefits of capitalism.
- Gender equality is a hallmark trait of the culture that results in not only a high degree of workplace participation by women but also a high level of parental engagement by men.



Advantages of the Nordic Model of Democracy

- The Nordic model yields equality and social mobility.
- Everyone has free access to decent public services, including some of the best education and healthcare in the world, and people appear happy to pay their taxes to make sure that this continues.
- These collective benefits are merged with entrepreneurship, creating an efficient blend of capitalism and socialism (Cuddly Capitalism).

Disadvantages of the Nordic Model of Democracy

- The model is criticized, because of the high taxes, high degree of government intervention, and relatively low Gross Domestic Product (GDP) and productivity, limit economic growth.
- The Nordic model redistributes assets, limits the amount of money available for personal spending and consumption, and encourages reliance on government-subsidized programs.

Way Forward

- There are fears that an aging population, globalization, and growing immigration will gradually tear apart the efficient welfare state of the Nordic model.
- Taxes can only increase so far, and there is always the risk that a more individualistic culture will begin to evolve.
- The Nordic model has a habit of overcoming obstacles better than many critics have expected. There are reasons to believe that the basic values behind it are so ingrained in these countries that they will always exist in one form or another.

MCQs

1. With reference to "Blockchain Technology", consider the following statements:
 1. It is a public ledger that everyone can inspect, but which no single user controls.
 2. The structure and design of blockchain is such that all the data in it are about cryptocurrency only.
 3. Applications that depend on basic features of blockchain can be developed without anybody's permission.
 Which of the statements given above is/are correct?
 a) 1 only b) 1 and 2 only c) 2 only **d) 1 and 3 only**
2. With reference to 'Bitcoins', sometimes seen in the news which of the following statements is/are correct
 1. Bitcoins are tracked by the Central Banks of the countries.
 2. Anyone with a Bitcoin address can send and receive Bitcoins from anyone else with a Bitcoin address.
 3. Online payments can be sent without either side knowing the identity of the other.
 Select the correct answer using the code given below:
 a) 1 and 2 only **b) 2 and 3 only** c) 3 only d) 1, 2 and 3
3. With reference to Central Bank Digital Currency (CBDC) consider the following
 1. It is efficient than printing notes (cost of printing, transporting, and storing paper currency)
 2. It reduces the risk of transactions
 3. It makes tax collection transparent
 4. Prevents money laundering
 5. Financial inclusion
 Which of the above is/are benefits of adopting CBDC?
 a) 1 and 5 only b) 1,3, and 4 only c) 1,3,4 and 5 only **d) 1,2,3,4,5**
4. Consider the following statements related to production of milk in India,
 1. India is the top-most milk producing country in the world.
 2. The per-capita availability of milk in India is lower than the world average.
 Which of the above is/are correct?
 a) **1 only** b) 2 only c) Both 1 and 2 d) Neither 1 nor 2
5. Recently, Kerch Strait frequently mentioned in news is associated with which of the following seas?
 - a) Red sea and Mediterranean Sea
 - b) Black sea and Baltic Sea
 - c) **Black sea and Sea of Azov**
 - d) Red sea and Sea of Azov
6. Which of the following country or countries share border with sea of Azov
 1. Russia
 2. Ukraine
 3. Moldova
 4. Georgia
 Choose the correct answer using the codes given below
 a) 1 and 2 only b) 2 and 3 only **c) 3 and 4 only** d) 1 and 4 only
7. With reference to Foreign Product Direct Rule (FDPR) which was in news recently, consider the following statements
 1. It is a technology export control rule of USA to counter Chinese technology export policy.
 2. Very recently for the first time USA extended this rule to Russia.
 Choose the correct answer using the codes given below
 a) 1 only b) 2 only c) Both 1 and 2 **d) Neither 1 nor 2**
8. Terms like "Solidity, Rusk and Haskell" often mentioned in news is related to which of the following?
 - a) Chinese malwares
 - b) Anti tank guided missiles
 - c) Dwarf planets
 - d) **Computer programming languages**
9. "Rosetta stone" recently seen in news was discovered in which of the following country?
 - a) UK b) USA **c) Egypt** d) Libya
10. Recently 'Project Mausam' has been in news was launched by which of the following Ministry?
 - a) **Ministry of Culture**
 - b) Ministry of Earth Science
 - c) Ministry of Environment and climate change
 - d) Ministry of Tourism