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ECONOMICS CONCEPT CLASSES

ForumIAS

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Agricultural Exports – Concept Classes

#1 What is the current status of agricultural exports in INDIA?

1. According to the Ministry of Commerce and Industry, farm exports have registered 9.8% growth for the period of April-December 2020.
2. Agricultural + horticultural + processed foods → exported to more than 100 countries in the world.
3. One of the 15 leading exporters of agricultural products in the world
4. Major destination →USA, Saudi Arabia, Iran, Nepal, and Bangladesh
5. Major commodities in export basket →rice (both Basmati and non-basmati), spices, cotton, wheat, marine products and buffalo meat.

#2 What are the potential and opportunities for India in agricultural exports?

1. Surplus grain production + one of the largest producers of dairy products + sugar + spices
2. Government renewed focus → recent farm laws + doubling of farmers' income program+ agriculture export policy + ease of FDI in the sector → increase in investor's confidence
3. Rise in foreign investments → e.g. - Indian food processing industry has cumulatively attracted FDI equity inflow of about US$ 10.24 billion between April 2000 and December 2020.
4. The market is estimated to reach ~US$ 60 billion by 2022, driven by strong demand from markets such as the Middle East and China.

#3 What are the challenges being faced by agricultural export sector?

1. fragmented land holdings →Lower productivity
2. Majority Indian farmers →small and marginal category→agriculture products used majorly for own consumption.
3. Uncertain foreign trading regimes + trade and non - trade barriers like phytosanitary & sanitary barriers
4. Export restrictions on imported food items to control inflation in domestic market →hurting agro – exports.
5. Lack of branding + promotion →hurting competitiveness.
6. Obstruction in global value chain due to COVID.

#4 What are the steps taken by the government to promote agricultural exports?

1. **Dedicated body -** Agricultural and Processed Food Products Export Development Authority (APEDA) →to provide assistance to agriculture exporters.
2. **Agriculture Export Policy**→doubling exports to $60b by 2022 + diversification of export basket
3. **Recent farm laws**→(a)The Farmers' Produce Trade and Commerce (Promotion and Facilitation) act (b) The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services act(c) The Essential Commodities (Amendment) act.
4. **'Transport and Marketing Assistance for Specified Agriculture Products'**→assisting the international component of freight handling and marketing of agricultural products.
5. **100% FDI under automatic route**→e.g. Floriculture, Horticulture, Apiculture; Development and production of Seeds and planting material; Animal Husbandry (including breeding of dogs), Pisciculture, and Services related to agro and allied sectors.

#5 What can be the way forward to further improve agricultural exports in the country?

1. Providing Infrastructure status to agricultural value chains, such as warehousing, pack-houses, ripening chambers, and cold storage, etc.
2. Augmenting cargo handling facilities at airports, ports, etc.
3. Establishing regional production belts→ linking the Mission for Integrated Development of Horticulture and Self-Help Groups.
4. Creating a Green channel clearance for perishable agro products in toll, air, and freight cargo stations.
5. Establishing strong quality regimen + attracting private players
6. Marketing + promotion of "brand India"
7. Providing timely information to farmers for taking cropping decisions.

AGRICULTURE SUBSIDIES – CONCEPT CLASSES

#1 What do you understand by the term agricultural subsidies?

1. Government incentives paid to farmers/agribusinesses/agricultural organizations to a) supplement their income b) manage the supply of agricultural commodities, and c) influence the cost and supply of such commodities.
2. Types → I) Direct subsidies = direct cash incentive 2) indirect subsidies = cheaper credit facilities, farm loan waivers, reduction in irrigation and electricity bills, fertilizers, seeds and pesticides as well as the investments in agricultural research, environmental assistance,farmer training, etc.
3. Farm subsidies →about 2% of India's GDP.
4. The share of subsidy on agriculture and allied activities out of total subsidy of Rs 3.73 lakh crore, for all economic activities is 25.8%.

#2 What is the rationale behind providing agricultural subsidies?

1. Supporting farmers→ Majority of farmers are small & marginal → poor → dependent upon agriculture for subsistence
2. Employment generation → by way of making agricultural activities profitable
3. Export promotion → by providing price competitiveness + improving quality of Indian
4. Ensuring food security

#3 What are the positive impacts of agricultural subsidies on the sector and farmers in India?

1. Increased exports of agri products → attracting private investment
2. Increased productivity → reduced food prices → self- sufficiency in food
3. Increased usage of technology and better infrastructure in agricultural activities → increased efficiency → increased profitability → reduced distress migration
4. Incentivising "less focussed" crops→eg higher subsidies on the crops having nutritional + environmental benefits.
5. Increased + assured income → better livelihood conditions → better nutritional status
6. Environment friendly practices promoted → eg; KUSUM programme (subsidy for solar pumps)

#4 What are the challenges arising due to subsidization of agriculture in India?

1. Ecological challenges →a) cheaper electricity →over exploitation of ground water b)Excessive use of fertilizer→ eutrophication + water pollution + soil erosion c) skewed cropping pattern
2. Excessive burden on exchequer → farm loan waivers → banking twin balance sheet challenge + fiscal deficit
3. Rising inequality → indirect subsidies more beneficial for already rich farmers (poor targeting)
4. Wastage of food crops due to excess production → increased burden on FCI
5. Discouraging investors due to higher government intervention →eg - fertilizer industry
6. Issues at international platforms like WTO →de-minimus clause→ 10% limit on "AMBER BOX" subsidies on developing countries.

#5 What steps should government take to tackle these adverse impacts?

1. Focus on direct cash transfers instead of input subsidies → expenditure by farmers as per their needs.
2. Leveraging digital transfer of subsidy → to remove leakages
3. Infrastructural reforms → to reduce the dependence on subsidies e.g. better irrigation facilities, promotion of renewable energy sources.
4. Institutional reforms → de-regulating urea supply.
5. Increasing investment in agricultural sector → public investment in agriculture must increase at 14% per annum (Ashok Dalwai Committee) + opening the sector for FDI → taxation incentives.
6. Legislative steps → contract farming + APMC reforms to reduce dependence on government.

AGRICULTURE MARKETING – CONCEPT CLASSES

#1 What is agriculture marketing and why is it important for agriculture sector?

1. Buying + selling of agriculture products →processes to link farms and markets
2. Marketing methods in India →(a) rural primary markets (haats) (b) cooperative marketing (c)Contract farming (d) future markets (e) commodity markets.
3. It promotes →(a) monetisation of produce (b) raises farm income (c) ensures demand-supply balance (d) brings investments and capital formation (e)Attracts youth (f) strengthens industrial linkages (g) avoids distressed sale and migration.

#2 What are the bottlenecks faced by agriculture marketing ecosystem in India?

1. Essential commodities act 1955 →govt regulated production + supply + distribution of essential commodities → affected the integrated value chain across the country.
   2. APMC act →farmers required to sell produce in local mandis→ monopoly situation.
3. Lack of infrastructure (cold chains + warehouse + transport) → ineffective supply chains
4. Poor technological integration→absence of real time market information+ lack of knowledge of grading and standardisation.
5. Tariff + non tariff barriers hamper the international marketing potential

#3 What steps have been taken by government in this regard?

1. Legislative steps→(a) Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, (b) The Essential Commodities (Amendment) Act (c)The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act(d) model contract farming law
2. Institutional steps→(a) FCI(b) NAFED (c) commodity boards for rubber, tea, coffee etc (d) NDDB (e) FPOs (f)Cooperatives.
3. Infrastructural steps→(a) (AIF)Agri infra fund (b)mega food parks (c)(AHIDF)animal husbandry and infra dev fund(d) Kisan Rail (e) KrishiUdan scheme
4. Policy level steps→MSP-PDS system, E-NAM, AGMARKNET, Operation greens, pm sampada
5. Branding and promotion →GI tags, organic states- Sikkim

#4 What can be done to further strengthen agriculture marketing in India?

1. Integrating modern marketing ecosystem → social media marketing apps + marketing budget plans + neuro marketing
2. creating awareness about application of production related data→Resolving Cobweb phenomenon {cultivation of specific crop based on previous year data → excessive/(deficient) production if the demand in last year was high/(low) respectively →deflation/(inflation)}
3. Creating taxation incentives for private players to invest in agriculture marketing platforms.
4. Promoting agri-tech start-ups by way of handholding and incentives by the government.
5. Development of agri-export zones on the lines of SEZs.

Banking Regulation Amendment Act 2020 – Concept Classes

#1 What is banking regulation act?

1. BR act 1949 → regulates commercial banking in India.
2. power to RBI →licensing of banks + voting rights of shareholders + appointment of boards and management + audit, merger, liquidation + directives to banks + imposing penalties.
3. 1965 amendment → cooperative societies under its preview but not all provision applicable to them as they do on commercial banks.

#2 How are cooperative banks governed in India?

1. Banking related function → under RBI
2. Management related functions→centre + state

#3 What is the existing issue with cooperative banks ecosystem?

Co-operative banks provide banking facilities to people of small means → Absence of regulatory oversight by RBI on par with commercial banks → poor performance of co-operative banks →PMC (**Punjab & Maharashtra Cooperative)** Bank scam.

#4 What are the features of the recent banking regulation amendment act?

1. Amends BR act 1949 with regard to cooperatives bank →as per BR act 1949 these were exempted from several provisions → now regulation under the Act similar to that of commercial banks.
2. Issuance of shares and securities→Co-operative banks may raise equity or unsecured debt capital from the public subject to prior RBI approval →(BR act 1949→Co-operative banks were excluded)
3. Prescription for qualification of management→RBI may prescribe qualifications for chairman employment + may remove a Chairman.
4. Supersession of Board of directors of co-operative banks→RBI can reconstitute the Board of Directors in order to ensure sufficient number of qualified members + supersede the Board of directorsafter consultation with the state government.
5. Formulation of scheme for reconstruction or amalgamationof banks → can be done by RBI without moratorium.

#5 What are the objectives of bringing the cooperatives under Banking Regulation Act?

1. to provide for better management and proper regulation of co-operative banks
2. to protect the interests of the depositors
3. to increasing professionalism, enabling access to capital, improving governance and ensuring sound banking through the Reserve Bank of India.

#6 What are the key issues with the amendment act 2020?

1. Increase in burden of RBI supervisory work→ Currently, RBI regulates and supervises 86 scheduled commercial banks, 45 regional rural banks and 10 small finance banks →now extended to 1,544 UCBs, 363 district (central) co-operative banks and 33 state co-operative banks.

2. Issue of federalism →'Banking' = Union List subject and 'incorporation, regulation and winding up' of co-operative societies' = State List→whether regulation of management, audit, capital and winding up of co-operative banks are essential to regulating the activity of banking.
3. Provisions on capital may violate principles of co-operative societies→co-operative societies raise capital from members→act is unclear what it means to raise equity capital from the public, how it will be treated and regulated.

Blue Economy- Concept Class

#1 What is the concept of blue economy?

(1) Leveraging economic potential of the oceans in a sustainable way → includes green economy in it

(2) According to World Bank, Tri-components → a) economic growth b) improved livelihoods and jobs c) ocean health ecosystem.

(3) First given by Gunter Pauli in 2010 in his book "The blue economy, 10 years, 100 innovations, 100 million jobs"

#2 What potential exists in the global blue economy?

(1) Multi-dimensional uses → a) Renewable energy, b) Fisheries c) minerals d) tourism e) climate

(2) World wide ocean economy → $1.5trillion/year

(3) Share of global trade by volume through oceans → 80%

(4) 350 million jobs → fisheries.

#3 Why so much stress on blue economy in recent years?

(1) 1st global conference on sustainable blue economy → Nairobi 2018

(2) Equity + Public participation in marine and coastal decision making is rising.

(3) United Nation sustainable development goals (UN-SDG – 14) → Life below water.

(4) Land as a source of economic sustainability → deteriorating.

#4 What are the challenges in harnessing its true potential?

(1) Mindset → focussing on "economy" and ignoring the "blue" component.

(2) No concrete definition of blue economy. International rules and norms → still evolving.

(3) Technological constraints; eg collecting polymetallic nodules, D2O etc.

(4) Natural disasters → tsunamis, cyclones, earthquakes and submarine volcanic eruptions.

(5) Maritime security → piracy, smuggling, drugs peddling, arms trade, human trafficking.

(6) Climate change impacts on marine life, habitats and communities.

#5 What should India do to harness the potential and increase its stake in global blue economy?

(1) India's geography → unprecedented opportunity of improving living standards, energy security and ecological resilience.

(2) Develop "blue diplomacy cadre" → SAGAR, IORA, BIMSTEC, SAARC and Indo-Pacific area.

(3) Strengthen "blue infrastructure" in terms of ports (sagarmala), ship building industry (make in India), multi logistics parks, naval bases etc.

(4) Integrated coastal zone management + O-SMART strategy.

(5) Increasing R&D → deep sea mining, underwater vehicles and robotics.

Climate Change – Part 1

#1 What is Climate Change?

1. Long-term alteration of temperature + weather patterns + variability of phenomenon of a place
2. Not a new phenomenon →Earth's climate has constantly been changing — even long before humans came into the picture.
3. Includes warming + cooling phases

#2 What are the causes of climate change?

1. Volcanic eruptions → releasing lava, ashes and pyroclastic material → Mount Pinatuba eruption 1991 →the aerosols formed a global layer of sulfuric acid haze →Global temperatures dropped by about 0.5 °C in the years 1991–1993
2. Changes in the orbit of the Earth → 'Milankovitch cycles'→ eccentricity, axial tilt, and precession →affects the amount of solar heat that reaches the Earth's surface
3. Plate tectonics→ Continental drift leads to changes landmass & oceans positions → changes in ocean currents + wind patterns.
4. Changes in Solar Cycle → "Little Ice Age" occurred over parts of Earth during the Maunder Minimum (period of near zero sunspot activity) → direct impact on temperature of earth.
5. Increased use of fossil fuels in electricity, transport and industries→Increasing Green House Gases in the atmosphere → global warming.
6. Deforestation→ Trees keep the balance of CO2 and O2 maintained by acting as carbon sinks→ lack of trees → imbalance of gases.
7. Unplanned urbanization → excessive concretization and construction of glass buildings → trapping of heat → disturbing heat budget of the earth
8. Increase in demographic load → over exploitation of resources→carrying capacity of the earth breached.
9. Anthropogenic aerosol → due to uses of fertilizer and burning of plant residues → traps the heat

#3 What can be impacts of climate change on different aspects of life?

1. Global warming →Increased weather extremities → Forest fires + Sea level rise + Melting of ice caps +Heat Wave + Changes in rainfall patterns and intensity→ increased risk of floods and droughts + intensity of cyclones, tornados and storm surges
2. Changing vegetation patterns →forcing animal species to migrate to new, cooler areas in order to survive.
3. Ocean acidification → threat to marine life
4. Change in Ocean current patterns e.g. Atlantic Meridional Overturning Circulation (AMOC) is losing its stability
5. Spread of new pathogens → giving rise to new and fatal diseases
6. Adverse impact on agriculture productivity → risk to food security.
7. Overall economic losses → as per reports if no action is taken to curtail the global carbon emissions, climate change could cost 5 -20% of annual global GDP.
8. Risk of submergence to small island Nations→ rise in climate refugees.
9. Positive feedback system →rise in temperature →melting of ice caps → release of trapped gasses like CH4 → GHG emissions increased → rise in temperature.

Climate Change – Part 2

#1 What can be the solutions to tackle climate change?

1. Mitigation →Reducing emissions of and stabilizing the levels of heat-trapping greenhouse gases in the atmosphere
2. Reducing the use of fossil fuels + increasing the use of renewable energy sources e.g. Solar power
3. Afforestation → increasing carbon sinks
4. Electrification of transport sector and industrial sector → reduce dependence on non-renewable energy
5. Carbon tax + polluter pays principle
6. R&D → to make machines efficient and environment friendly
7. Adaptation →Adapting to the climate change already in the pipeline
8. Building Back Better → Building resilient infrastructure
9. Improving weather forecast systems + usage of satellites to predict vulnerabilities
10. Expanding the horizons of land use planning to incorporate longer climate predictions
11. Adopting drought-proof seeds and crops for agriculture practice
12. Promoting green financing → green bonds, blue bonds and climate financing under international agreements.

#2 What are the steps being taken internationally & nationally in this direction?

1. United Nations Framework Convention on Climate Change (UNFCCC) → Kyoto protocol + Paris agreement + REDD+
2. Adopting common but differentiated responsibility→ protect the interests of developing countries + ensuring collaborative effort.
3. WMO + UNEP → founded the IPCC to provide for a mechanism to study the effects of global warming at a governmental level.
4. International Solar Alliance
5. Transformative Carbon Asset Facility→ A World Bank Fund →to help developing countries implement their plans to cut emissions
6. European Green Deal → by the European Council →to achieve carbon neutrality by 2050
7. Mission Innovation→global initiative of 22 countries and EU →to accelerate global clean energy innovation
8. India's INDC targets → to be achieved by 2030 → a) 40% of the installed capacity for electricity will be from non-fossil fuel sources, b) reduce the emissions intensity of the GDP by about a third, c) additional carbon sink of 2.5 to 3 billion tonnes of carbon dioxide equivalent through additional forest and tree cover.
9. National Action Plan on Climate Change (NAPCC)→ with 8 National Missions
10. Coalition for DisasterResilient Infrastructure
11. Raising the domestic renewable energy target to 450 GW by 2030
12. National Hydrogen Mission.
13. India Climate Change Knowledge Portal
14. shift from Bharat Stage-IV (BS-IV) to Bharat Stage-VI (BS-VI) emission norms

Contract Farming – Concept Classes

#1 What do you mean by contract farming ?

1. It is a BUYER-FARMER contract→ arrangement between producers and the processors/exporters→farmer promises to supply certain quantity of an agricultural product meeting the quality standards within a pre-agreed time.
2. In turn, the buyer commits→to purchase the product and, in some cases, to support production→the supply of farm inputs, land preparation and the provision of technical advice.
3. Presently regulated under → a) Indian contracts act 1872 b) APMC act 2003

#2 Why in recent times there has been an increased focus on contract farming?

1. Agricultural growth stagnated since last 6 years → Economic survey 2019-20
2. Sector is marred with issues like → price volatilities + high government intervention + low investment + restricted market access + exploitation by intermediary.
3. In consonance with the economic reforms of 1991 + govt recent push towards ease of doing business.

#3 How contract farming can boost India's agriculture sector?

1. Involvement of private sector → increased investment + technology + competition
2. Higher mechanisation + better knowledge → raised productivity + quality
3. Assured market for farmers →reduced marketing+ transaction cost
4. Consistent supply of agri produce → less price volatility
5. Better export promotion → increased share in global agri trade
6. potential to develop agri start-ups + retaining youth in agriculture → agri entrepreneurship

#4 What are the associated challenges which make certain experts and farmers reluctant to join contract farming?

1. Biased in favour of firms or large farmers (Monopsony) →Problems faced by small farmers like undue quality cut on produce by firms, delayed payments, low price and pest attack on the contract crop which raised the cost of production.
2. Contracting agreements are often verbal or informal in nature→ Lack of enforceability of contractual provisions
3. Small + marginal farmers discriminated→ small landholdings + no machines + high registration costs.
4. Ecological threats →promotion of monoculture + introduction of foreign varieties + soil erosion
5. IPR issues → eg., Pepsico case in Gujrat.
6. Agricultural field entrusted to somebody on contract basis→ reduced land for livestock to feed on

#5 What steps has govt taken in this regard?

1. NABARD'S special refinance package for contract farming arrangements→creating market avenues.
2. Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services act 2020→ legal framework for contract farming + prior price determination + dispute settlement mechanism
3. Essential commodities amendment act 2020 → removal of stock limits→ large organisations can participate.
4. Repealing + amending the APMC acts →bringing sale of agri produce out of the clutches of mandis.

5. Model contract farming act 2018 →farmer recognised as "weaker" party so interests need to be protected + contracted produce under insurance + no permanent structure on farm premises + FPOs to mobilise small farmers + Contract Farming Facilitation Group (CFFG) →promoting contract farming at village / panchayat level+ Contract framing to be outside the ambit of APMC Act.

#6 What further needs to be done to balance the competing interests?

1. Foster more competition→to incentivise firms to offer better terms and services to farmers + improve farmers' connectivity to spot markets and mandis across the country.
2. Provide information→maintain an information repository of farmers, contracting firms and standards for crops, land availability, default rate, and performance standards→help farmers and sponsors to evaluate each other prior to engaging in contracts.
3. Encourage softer means for enforcement→risk-sharing mechanisms in contracts, renegotiation options, and simplified and transparent contract terms.
4. Education and awareness regarding farmer's rights → leveraging FPOs + cooperative farming models.
5. leveraging technology + promoting R&D → GIS, remote sensing + soil mapping + crop clinics and testing laboratories + on farm experiment facilities.

E-COMMERCE SECTOR – PART 1 concept classes.

#1 What do you understand by the term e-commerce?

1) Buying and selling of good or services via the internet. E.g. a) The sale of products directly to a consumer b) service → coaching, writing, and influencer marketing, etc., that are purchased online.
2) Types of e-commerce: a) Business to Business (B2B) b) Direct to Consumer (D2C)→ brand is selling directly to their end customer without going through a retailer, distributor, or wholesaler c) Consumer to Consumer (C2C) d) Consumer to Business (C2B) e) Business to Consumer (B2C)
3) Classification of e-commerce sites: a) Market based model→providing an IT platform by an **e-commerce** entity to act as a facilitator between buyer and seller e.g. Amazon, flipkart b) Inventory based model →an **e-commerce** activity where **inventory** of goods and services is owned by **e-commerce** entity and is sold to the consumers directly e.g. Jabong

#2 What is the status of e-commerce in India?

1) Market is expected to grow from US$ 38.5 billion (2017)→US$ 200 billion by 2026.
2) India's e-commerce orders volume increased by 36% in the last quarter of 2020; largest beneficiary→personal care, beauty and wellness (PCB&W) segment.

#3 What are the reasons for such fast growth of e-commerce in India?

1) Increase in internet and smartphone penetration→ launch of 4G network; 2020→internet connections =776.45 million, driven by the 'Digital India' programme
2) Pandemic and consequent lockdown →sudden rise in volume of sales taking place through e commerce site. (Temporary reason but will have behaviour change for longer term)
3) Increasing financial inclusion due to digital banking → ease of online payments.
4) Change in lifestyle--> less time for shopping→easy to shop online.
5) Increased options for the customer with better deals.
6) Government support e.g. GEM portal, National retail policy, eased FDI norms, consumer protection (e-commerce) rules etc
7) Inflow of FDI from e-commerce giants- Indian Government hiked the limit of FDI in E-commerce marketplace model to up to 100% (in B2B models)

#4 What are the challenges before e-commerce market in India?

1) Financial fraud and theft of sensitive information→Breach of right to privacy.
2) Whole sector depends on internet connectivity → digital divide → not able to reach its full potential
3) Issue of less accountability and responsibility of the e-com companies as compared to physical market shops → lack of trust among the customers→ 95% share of physical market only 5% shopping on online portals
4) Poor logistics → delayed orders → increased shipping cost.
5) Sellers, as in offline, are required to have a physical 'Principle Place of Business' which, given the nature of e-commerce, is not practical.

E-COMMERCE – PART 2 ; CONCEPT CLASSES

#1 How consumer protection (e-commerce) rules are going to improve the experience of consumers on e-commerce market in India?

Protect the interests of consumers + encourage free and fair competition in the market + bring transparency + strengthen the regulatory regime.

1. Appointment of a nodal person →look into the compliances of the CPA and E-Commerce Rules as applicable.
2. Information Disclosures: Rule 4(2) provides for disclosure of material information on the e-commerce marketplace in clear and accessible manner→ Every seller to make sure that descriptions, images, and other content of goods or services are accurate.
3. Grievance redressal mechanism→appointing a Grievance Officer.
4. Every marketplace e-commerce entity to provide information relating to return, refund, exchange, warranty and guarantee, delivery and shipment, modes of payment for consumers to make informed decisions.
5. E-commerce Rules 2020 clearly states→no marketplace seller shall falsely represent itself as a consumer and post reviews about goods or services.

#2 What are the new draft rules to further improve the customer experience?

1. Prohibition on display or promotion of misleading advertisement by e-commerce entity.
2. E-commerce firms offer imported goods or services for sale→ Name + details of importers to be mentioned.
3. Filter mechanism to display notification regarding the origin of goods + suggestions of alternatives to ensure a fair opportunity for domestic goods;
4. Sponsored listing of products and services are distinctly identified with clear and prominent disclosures.
5. No e-commerce entity shall organize a flash sale of goods or services offered on its platform.
6. E-commerce companies will have to appoint a chief compliance officer, nodal contact person for 24×7 coordination with law enforcement agencies and a resident grievance officer.
7. Every company which intends to operate in India will also have to register itself with the DPIIT (Department for promotion of industry and internal trade)

#3 What are the issues with these rules?

1. Overregulation →retarding growth and job creation
2. Issue of delivery charges + "add on charges" not covered→sellers advertise low prices at the start of the purchasing process → later on, several additional charges, taxes, fees imposed/disclosed towards the end (DRIP PRICING)
3. Implementation of these rules → increase in operational expenses of e-com companies.
4. Rules unclear about the "flash sales" → whether all the flash sales are prohibited or are there certain criterias.

#4 What steps can be taken to improve the working environment for e-commerce in India?

1. Simplify the "Principal Place of Business" (PPoB) requirement by making it digital
2. Build infrastructure → physical + digital→ Use of AI for better logistics support.
3. Skilling policy and programmes →focus e-commerce sector to meet future demand .

4. Identify products that have potential for the export market, connect e-commerce with export-oriented manufacturing clusters and leverage existing SEZs to create e-commerce export zones.
5. Promotion of robust data protection frameworks along the lines of EU's General Data Protection Regulation (GDPR).
6. Provide MSMEs with support to understand→how e-commerce functions, awareness programs, incentives to those using digital marketplace.

Economics Concept Classes

Part 1

ForumIAS

Blue Economy

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(4) Integrated coastal zone management + O-SMART strategy.

(5) Increasing R&D → deep sea mining, underwater vehicles and robotics.

Green Revolution

#1 What is the Green revolution?

(1) Green revolution refers to the transformation of methods/operations in agriculture in order to boost the production and productivity with the introduction + development of HVY seeds.
(2) Agricultural system converted = industrial system.
(3) The three important components a) Irrigation facilities b) Chemical fertilizers c) Machines
(4) Objectives: a) short term – to address India's hunger crises b) long term – agricultural modernisation, industrial development and rural development.
(5) Rice + Wheat = key crops in India's green revolution.

#2 What was the historical context?

(1) Seeds of green revolution → Mexico in 1960s
(2) Term "green revolution" was coined by William S. Gadd in 1968. But the father of GR = Norman e Borlaug
(3) India specific → After independence → population rise, wars, inflation, poverty => food insecurity
  - PL 480 programme where India relied on USA for its food needs.
  - 1961-india on brink of mass famines
  - 1960s-beginning of green revolution in India.

#3 What have we gained from the green revolution? (MERITS)

(1) Rise in production + productivity → India = "self-reliant" in food grain production.
(2) Increased exports + reduced imports =>Reduced current account deficit.
(3) Raised farm income + employment diversification => Better socio-economic outcomes in health and education sector.
(4) Mechanisation and commercialisation of agriculture → Support to Industries => developing inter-industrial linkages. Food processing sector is the sunrise sector.
(5) Regional development; especially the north-west India.
(6) PDS-MSP-NFSA system started in later years to ensure food security

#4 What cost have we paid? (CRITICISMS)

(1) Reduced inter crop and intra crop diversity → nutrition rich crops (pulses, fruits and vegetables) lagged behind.
(2) Regional inequalities rose → the western and eastern India.
(3) Income inequalities rose; small and marginal farmers, landless labourers were at disadvantage.
(4) Deterioration of natural resources a) depletion of groundwater (rise in uranium, arsenic and fluoride contamination (b) Soil erosion + land degradation (c)eutrophication
(5) Environmental pollution due to stubble burning and delaying of sowing of kharif crops.
(6) Health impacts → imbalanced use of chemicals (NPK) (a) disorders like methemoglobinemia (b)biomagnifications + bioaccumulation (c) rising cases of cancer in states like Punjab
(7) Food mismanagement due to violation of buffer stock norms.

Note: Economic survey 2019-2020 has pointed out – "Agriculture growth is stagnant in last 6 years"

#5 How to move from green revolution to ever green revolution?

(1) Diversification from farming to allied activities – livestock, fisheries, poultry and horticulture.
(2) Focus on eastern region => bringing green revolution to eastern India (BGREI)
(3) Implementing government schemes => krishnottiyojanaparamparagatkrishivikasyojna, mission for integrated development of horticulture rashtriyagokul mission.
(4) Crop Diversification=> pulses, vegetables, fruits etc
(5) Extension services and intensive farmers awareness programs
(6) Field trials=> Innovative practices=>natural farming, zero budget farming, lee farming etc.

Indian Pharma Sector – Opportunities And Challenges

#1 What is the present status of India's pharma sector?

(1) India = pharmacy of the world → supplies 50% of the global demand for vaccines.

(2) Largest provider of generic drugs; 3rd largest in terms of volume.

(3) Regulated → Drugs & cosmetics act1940; CDSCO = approval of new drugs, clinical trials, coordination.

#2 What are its locational factors?

(1) Footloose industry → independent of specific local resources.

(2) Raw materials → proximity to petrochemical hubs or ports → inter industrial linkages

(3) Proximity to market →reduced transportation cost

(4) Capital availability

(5) Skilled labour

(6) Efficient transportation

#3 What are the challenges?

(1) High dependence on China for raw materials (APIs)

(2) Lack of research components

(3) Fragmented industry

(4) Fake version of high value brands → spurious medicines → competitiveness hurt

(5) Government policies like price capping, IPR policies → profits + investor confidence reduced

(6) Marketing malpractices → nexus among pharma companies and doctors, misleading advertisements,

#4 What are the opportunities?

(1) China facing shortage of raw material

(2) Huge population and diversity → suited to clinical trials and indigenous medicines

(3) Lifestyle diseases rising

(4) Health insurance (penetration + density) increasing

(5) Government focus → ayushman bharat, pharma vision, rashtriya arogya nidhi, national digital health policy, national digital health mission (NDHM) and National biopharma mission.

(6) Medical tourism.

#5 What recent opportunities have emerged due to Covid?

(1) India → supplier of medicines like hydroxychloroquine to USA

(2) Development of "vaccine diplomacy"

(3) Scope of R&D increased → private players participation boosted

(4) Market expansion → domestic + external

#6 What are the solutions?

(1) Small scale raw material manufacturing units/incubators industry-academia tie ups

(2) Integrating all the, medical systems → Ayush

(3) Promoting ease of doing business, e-pharmacy, pharma parks

(4) Developing "medical diplomacy".

(5) Implementing Maleshkar committee recommendations → strengthen state drug control organisations, setting national drug authority.

NATIONAL MONETISATION PIPELINE

#1 What is national monetisation pipeline?

(1) Process of unlocking the value of investment made in public assets.
(2) Part of 3 pronged strategy a) DFI b) Monetising assets of public sector banks c) Increasing capital expenditure.
(3) Budget 2021 → launched to assess the value of unutilised/underutilised govt assets
(4) National asset monetisation plan → dashboard → tracking the progress + increase visibility to investors.
(5) Niti Ayog to prepare the plan for FY21-24
(6) Target → raise 2.5 lakh crore.

#2 Why is it launched?

(1) To give boost to infrastructure projects → potential brownfield infrastructure assets
(2) Covid pandemic → increased spending + reduced revenue → borrowing increased by 2.3 times
(3) Subdued private sector investments
(4) Recommended by Vijay Kelkar committee on roadmap for fiscal consolidation
(5) International experience → China, USA, France have effectively utilised this

#3 How will it work?

(1) Broader contours available
(2) Transferring of assets to a trust
(3) leasing / renting out of assets
(4) Awarding of assets to private players. Eg → 150 passenger trains.
(5) Leveraging InvITS + PPP models like tol-operate-transfer

#4 What are the core infrastructure assets that will be rolled out?

(1) NHAI operational toll roads
(2) Oil and gas pipelines of GAIL, IOCL, HPCL
(3) AAI airports in tier 2 and 3 cities
(4) Railway infrastructure assets
(5) Sports stadium
(6) Warehousing assets of CPSEs.

#5 What are the expected benefits?

(1) Driving investments in the economy
(2) Higher public sector capital expenditure → multiplier effect → crowd in private investments.
(3) Proceeds of this → can be used in fresh projects
(4) India's vision of $5 trillion economy

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LAND REFORMS (Part 1)

#1 What are land reforms?

1) Reforming the regulation of land → a) ownership b) rent/lease/sale/operations c) Inheritance
2) Redistribution of land from rich to poor.
3) Improving land tenure + institutional ecosystem.

#2 What are the objectives of land reforms?

1) Ensure redistributive justice → socio economic inequality
2) Develop system of peasant proprietorship → land belongs to tiller
3) India = agrarian economy → huge income inequalities → implement socialistic principles
4) Elimination of exploitation in land relations.
5) Increasing agriculture production + productivity

#3 What was the land tenure system during colonial period?

Permanent settlement system b) Ryotwari system c)Mahalwari system
1) permanent settlement system = fixed land revenue to be paid by zamindar to company
2) ryotwari system = revenue to be paid by farmers/ryots
3) mahalwari system = revenue to be paid by whole village (mahals)

note : British legislated laws → Rent act 1859, Tenancy and rent act 1885.

#4 What issues emerged out of such colonial policies?

1) Ownership rights stayed with the zamindars
2) High peasant indebtness
3) Rise in peasant revolts.
4) Rise in socio-economic inequalities → small farmers + labourers → most vulnerable
5) Rise in food insecurity

#5 What measures were taken in immediate post independence period?

1) bhoodan and gramdan movements → Vinoba Bhave
   bhoodan = zamindars persuaded to gift their land to farmers
   gramdan = collective village living → villagers to vest their all ownership rights to gram sabha
2) Abolition of zamindari system → to remove intermediaries between state and actual cultivators
3) Land consolidation → to bring together small plots of fragmented land.
4) Tenancy reforms → to protect the tenants → regulation of rent + security of tenure + ownership rights
   5) Land ceilings → fixing the maximum amount of land which individual/family can possess.

#6 What were the merits/gains out of such reforms?

1) 2.5 cr farmers bought into direct relationship with the state
2) 61ha of land → distributed to landless farmers.
3) Large scale privately owned forests and wasteland → under state
4) Land consolidation → support to green revolution

#7 What were the limitations associated with such steps?

1) Landlordism abolished but "absentee landlordism" continued
2) Legislations not uniform; eg WB = uniform ceilings but Maharashtra, gujrat= different ceilings for different classes.
3) Poorly designed legislations → ceiling not decided on the basis of soil quality, population density, climate.
4) Poor enforcement mechanism → tenants denied of their rights
5) Large tracts of unused land under government.
6) Unclear titles → black money in real estate + benami property.

note : Planning commission – "land reforms remain an unfinished business"

LAND REFORMS (Part 2)

#1 What further steps were taken to tackle the issues originated out of poor implementation of institutional reforms?

1) Computerisation of land records (1988) → pilot project in 8 districts → resolve the issues of manual system
2) PESA 1996 → Gram Sabhas given power to regulate their land + resources → implementation of land reforms + land consolidation
3) Forests rights act 2006 → a) "title rights" on land to tribals b) "use rights" for minor forest produce c)"relief and development rights" for rehabilitation in case of eviction.
4) Digital India lands record modernisation programme → integrated land information management computerisation of land records + map digitisation.
5) Land acquisition act 2013 → higher compensation to those deprived of their land by govt (public + private) projects.
6) Model land leasing act 2016 → balance the needs of landlords and lease holder → bring in unproductive land to productive uses → recognising cultivators → provide credit
7) Swamitva yojna → mapping the land parcels in rural areas using drones.
8) Niti Ayog's draft model land titles act 2019 → state guaranteed ownership.
9) ULPIN → unique land parcel identification number → link all property transactions

#2 What are the existing gaps in this context?

1) huge land lying vacant under govt, eg – 2.35 lakh acre surplus land under 58 underperforming CPSUs
2) 2/3rd of all the pending cases in courts → property disputes ; Niti Ayog → 20 years = avg time to settle such cases
3) Recent agricultural census → size of operational landholding decreased since 1971 + fragmentation of land expected to rise.
4) Absence of nationwide template ie standardised national registry of land records.

#3 What steps should be taken

1) Digitisation of land records eg- Bhoomi project (Karnataka)
2) Responsible legislations like Rajasthan's urban land act which makes state as the guarantor of land titles
3) Distributing ceiling surplus lands → land reforms division to fix annual targets
4) Monetisation of govt wastelands
5) Consolidation of landholding → kerala, TN, Gujrat
6) Promoting cooperative farming
7) Leveraging technology → Andhra Pradesh using block chain technology to prevent property frauds.

INDUSTRY 4.0/FUTURE OF WORK

#1 What do we mean by Industry 4.0/industrial revolution 4.0?

(1) Phases of industrial revolution ;
  (a) phase1 → mechanisation + water and steam power
  (b) phase2 →electricity + iron steel, rail lines
  (c) phase 3 → cyber systems + automation
  (d) phase4 → cyber physical systems.
(2) Key elements → fusion of technologies ranging from the physical, digital to biological spheres.
(3) Describes → growing trend of automation + data exchange in technology + processes within the manufacturing industry.
(4) Four fundamental principles →
  (a) interconnection
  (b) information transparency
  (c) Technical assistance
  (d) decentralised decisions
(5) Includes→ Internet of Things (IoT) + Industrial Internet of Things (IIoT) + Cyber-physical Systems (CPS) + Smart Manufacturing + Cloud Computing + Big Data + Robotics + Cognitive Computing + Artificial Intelligence.

#2 Why is it called future of Work? (Impacts on nature of work)

(1) Technological revolution→fundamentally alter the way we live, work and relate to one another.
(2) Technology→ almost all the sectors → Improves efficiency and effectiveness; eg 3D printing used for shoe manufacturing by adidas.
(3) Protects→ environment→ achieving SDGs
(4) Increase the volume+speed → accessibility
(5) Alternative to physical workplaces → professional + personal life balance.

#3 What are the challenges?

(1) Old pedagogy practices in schools colleges→ Lack of skilled personnel
(2) Fear of job losses → semi skilled + unskilled workers discriminated
(3) Income inequality + Gender inequality →digital resources limited to dominant sections.
(4) Digital divide → accessibility restricted
(5) Cyber attacks
(6) 3D manufacturing →ethical issues ; eg-piracy because files can be easily copied
(7) Poor funding for R&D→ indigenous base not developed→ dependence on foreign players.

#4 What are the ways to tackle these challenges?

(1) Promotion of investments in digital infrastructure.
(2) National education systems → development of competencies in ICT and STEM
(3) Capacity building programme→new skills
(4) Competitive grants→R&D promotion
(5) Regulatory frameworks → data protection (personal-BN srikrishna panel) + non personal data (Kris Gopalkrishna committee)

#5 Is India prepared for this revolution?

(1) Demographic dividend + Presence of skilled workforce in IT→ can be tapped.
(2) Fast growing market size →rise in investors confidence
(3) New education policy specifically focussing on practicle knowledge
(4) Digital India Mission → Improved Digital Infra
(5) Tele-density ~ 93% and ~ 50 crore Indians →mobile phones.
(6) MSME→ at forefront of 4IR→ Handholding by the government
(7) Dedicated govt focus →Samarth udyog bharat 4.0

GLOBAL VALUE CHAIN – INTEGRATING THE WORLD ECONOMY

Context → Covid pandemic has caused large scale disruptions in global supply chains.

#1 What do you mean by Global value chain?

(1) International production sharing →production broken into activities + tasks carried out in different countries.
(2) Acc to World Bank→ GVC = series of stages in the production→ Each stage adds value.
eg- a bike assembled in France with parts from Germany, Italy, and Malaysia and exported to the Arab Republic of Egypt is a GVC.

Note : supply chain = all parties in fulfilling a customer request → customer satisfaction,
value chain = interrelated activities a company uses to create a competitive advantage.

#2 How it leads to Integration of world economy?

(1) Multiple geographical locations→ countries working together→ globalization → Integration of the world economies.
(2) Interdependency of the countries increase→ integration

#3 Why GVCs are important for overall growth of the world economy?

(1) Powerful driver of productivity + efficiency → country having specialities are involved
(2) Access to international market increase
(3) Diversification of export sector → number of products from diff countries increase
(4) Following international standards →Quality + R&D + Technological Advancement
(5) Improving Employment opportunities
(6) Knowledge and ideas sharing

#4 What measures countries can take to tap the potential of GVC?

(1) Upgradation of local companies
(2) Diversification of skill sets of workers
(3) Upgradation of Infrastructure→ Multimodal logistics, port facilities etc
(4) Conditional FDI→ eg : incentive to foreign companies giving employment with environmental sustainability.
(5) Simple taxation regime.

#5 What is the future potential of India in global value chain?

(1) Shifting of global manufacturing base→India emerging as hub
(2) Low-cost labour + high class technology available
(3) Dedicated focus towards EODB
(4) Make in India mission + Start up India mission
(5) Mega infra projects → sagarmal, setubhartam, freight villages, INSTC, asian highway project, Blue dots network and QUAD

#6 Why integrating with global value chains crucial for India?

(1) GVC → Upgradation of infra→ policy reforms→ employment generation→ economic growth→ reduction of poverty. (1% increase in GVC participation → per-capita income increase by more than 1%)
(2) Improved Firm level productivity→ improved profits→ improved tax collection
(3) Interconnected regimes →build resilience, stability and flexibility in the production networks
(4) To mark its presence in the global economic order eg: pharmaceutical sector → reducing dependence on China.

LABOUR REFORMS (Part 1)

#1 What do you mean by labour reforms?

(1) Steps to increase production + productivity + employment opportunities without compromising worker's interest.
(2) Protection + strengthening of worker's rights.
(3) Balancing industrialist + workers interest.

#2 What were the major central legislations made in post independent period?

(1) Industrial Disputes Act 1947 → layoff + retrenchment + closure of industrial enterprises + strikes+ lockouts.
(2) Factories act 1948 → safety measures on factory premises + health and welfare of workers.
(3) The Minimum Wages Act, 1948 → skilled and unskilled labours.
(4) Employee providend funds act and employee state insurance act → social security

#3 What were the existing gaps?

(1) Multiple and complex set of laws →high inter-state variations→technical language→ difficult compliance and enforcement→foundation for corruption, rent seeking and exploitation
(2) Inflexible laws→firms (employing>100 workers)→require govt approval for firing workers→no new hiring.
(3) High degree of informalisation→90% → laws not applicable→poor social security
(4) Gender discrimination→unequal wages → poor enforcement of minimum wages act
(5) Issues with trade unions→multiples numbers→ frequent strikes + inter-union rivalry + politicisation → industrial disputes act unclear about the union's rights
(6) Lack of formal jobs + nexus with enforcement officers→ Contractualisation + exploitation of labour
(7) Share of manufacturing decreasing→16.6% in 1990→ 13.7% in 2019

#4 what steps were taken by the govt to fill these gaps?

(1) Legislative reforms→
  (a) payment of bonus amendment act (the bonus bracket was increase→ more workers to get bonus),
  (b) maternity benefit act 2017(extended maternity leave, crèche facilities etc)
  (c) child labour prohibition and protection act (complete prohibition of employment of children below 14 years except family business + stricter punishment for violators)
(2) Governance reforms→ fixed term employment, ease of compliance for establishments etc
(3) EPFO initiatives →employee enrolment campaign, Reduction in administrative charges etc
(4) Number of schemes →labour identification number, atal pension yojna, national child labour protection scheme, aids to child and women labour etc
(5) Codification of labour laws.

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LABOUR REFORMS (PART-2)

#1 What are the labour codes recently formulated by the govt?

(1) Set of regulations→consolidating central labour laws in 4 categories
(2) Recommendations by Second Labour Commission (1999)
(3) Four codes → a) Code on wages b) Code on industrial relations c) code on social security d) Code on occupational safety, health and working conditions.

#2 What are the features of these codes?

(1) **Wage code**→ a) Floor wage fixed by Centre, b) Fixing the minimum wage→ must be >floor wage + revised every 5years, c) Overtime Wages→ must be at least twice the normal rate of wages, d) Wage deduction should not exceed 50% of the employee's total wage, e) no gender discrimination.
(2) **Code on industrial relations**→ a) prior permission from the govt for closure, lay-off and retrenchment for an establishment having at least 300 workers, b) Negotiating Union→one having >51% of the workers as members = sole negotiating union c) Negotiating council→if no sole negotiating union→representatives of unions that have at least 20% of the workers as members. d) industrial tribunals for settlement of disputes.
(3) **Code on social security** → a) Social security fund by centre as well as states for unorganised workers, gig workers and platform workers, b) National Social Security Board→recommend + monitor schemes, c) In case of pandemic/epidemic/disaster→ contributions to PF/ESI can be reduced.
(4) **Code on occupational safety** → a) occupational safety board at national + state level, b) valid for establishment > 10 workers, c) welfare facilities at premises.

#3 What are the merits of these codes?

(1) Simplification of laws →reduction of overlapping + contradictory + multiple definition-based provisions.
(2) Inclusive nature → for the first-time gig worker + migrant workers included + social security for self-employment sector.
(3) Reduced chances of "unionisation" → collaboration →efficient dispute resolution
(4) Institutional mechanism → NSSB to recommend + monitor schemes
(5) Federal spirit respected → states given power to decide for their own minimum wage above floor wage.

#4 What are the limitations in these codes?

(1) Lack of clarity→ in case no union has required support of at least 20% workers
(2) enforcement of tribunal award →govt may defer it on certain grounds →aim defeated
(3) No universal social security→ only the enterprises above certain threshold covered.
(4) Provisions on gig workers and platforms workers are unclear
(5) Size based threshold→burden on small establishments + firms remain small.

#5 What further steps can be taken to improve worker conditions?

(1) Labour Market Information System (LMIS) → identifying skill shortages + training needs + new employment opportunities
(2) Implementing govt schemes → PM shramyogi mandhan yojna, Atal pension scheme, Shram suvidha portal, transparent labour inspection scheme.

(3) Increase in quality apprenticeship (apprentice protsahan yojna) and self-certification of documents.
(4) Skill development under shramev jayate →key element under make in India.
(5) Other supplementary reforms→ raising income and demand, stabalising business climate, infrastructure upgradation, skilling of workforce and consistent export - import policy to increase overall investment and jobs.

VOCAL FOR LOCAL

#1 What do you understand by "Vocal for Local"?

(1) To popularise indigenous products (local products) → make them global (increase accessibility and branding) → increase exports + reduce imports.
(2) To promote local manufacturing + local market + local supply chains.
(3) To make Indian products globally competitive.
(4) To make India self-reliant "AtmaNirbhar"
(5) Not against globalisation but new form of globalisation→Conversion from profit-driven to people-centric.
(6) shifting the focus from 'Make in India' to 'Make for World.'

#2 What is the current status of Localization in the country?

(1) Over 30 years ago→no much Indian brands were there + lack of trust on local brands
(2) Now→more than 60%of the brands in the food industry are local brands
(3) Local brands comprise 57% of shopper's decision
(4) Indian brands not much popular → personal hygiene, cosmetic, and consumer durable segments.

#3 What does India need to do to achieve the goals of "vocal for local"?

(1) product quality improvement policies → zero effect zero defect
(2) "Brand India" promotion in foreign market by India brand equity foundation (IBEF)
(3) Focussing on emerging technologies→ robotics, 3D printing, artificial intelligence etc
(4) Link itself to global value chain
(5) Developing manufacturing clusters + start-ups + efficient forward-backward linkages
(6) Consumers Awareness about the local brands
(7) Government support to MSMEs + handholding

#4 How India is going to be benefitted by this call?

(1) Reduced current account deficit
(2) Rise in India's presence in global market → strategic advantage vis-a-vis China
(3) High potential to boost employment
(4) Increased local consumption → increase in economic activities → increased GDP

#5 What are the risks involved in such scenario?

(1) Might be seen as "protectionist policy" by other countries
(2) manufacturing is still weak → dependence for raw materials like lithium on foreign countries inevitable
(3) reduction in competition from foreign products → quality deterioration
(4) Global economy → works on GIVE & TAKE → India's stance of only taking from global economy → not sustainable.
(5) Initial Demand-Supply mismatch due to reduced imports of certain necessary items.

#6 Will it act as a counter to globalization?

(1) PM has made it clear → vocal for local = self reliance and not self-centeredness.
(2) Progress of India = progress of whole world
(3) Rise in global competition → innovation → strengthening of globalisation

MSME (Part 1)

#1 What do you understand by the term MSME?

(1) Micro, Small, and Medium Enterprises → first time defined under MSME development Act 2006.
(2) Redefined by the MSME Development (Amendment) Bill, 2018.
(3) Two categories: (i) Manufacturing; and (ii) Those engaged in providing/rendering of services.

Classification of enterprises into micro, small and medium enterprises (in Rs)

Kind of enterprise	Act of 2006		Bill of 2018
	Manufacturing	Services	All enterprises
	Investment towards plant & machinery	Investment towards equipment	Annual Turnover
Micro	25 lacs	10 lacs	5 Cr
Small	25 lacs to 5 Cr	10 lacs to 2 Cr	5 Cr to 75 Cr
Medium	5 Cr to 10 Cr	2 Cr to 5 Cr	75 Cr to 250 Cr

#2 What was the need of redefining the MSMEs?

(1) Investment criterion led to Pan Peter Syndrome → with increase in size → increase in regulations and rules → discouraged MSMEs to become bigger.
(2) Classification based on Annual turnover → No need for frequent inspections →to check the investment in plant and machinery.
(3) Differentiation between manufacturing and services MSMEs removed → Transparent, non-discriminatory policy formation.

#3 What is the significance of MSMEs for Indian Economy?

(1) More than 6 crore MSMEs→ around 95% of total industrial establishment in India → backbone of Indian economy
(2) Contributes 30% to India's output/GDP + 45% to manufacturing output/GDP
(3) Contributes around half of the exports
(4) Employs more than 11 crore workers→ four times more labour intensive than normal industries.
(5) Provides diversity to manufacturing + services ranging from textiles to space equipments to food processing.
(6) Presence in rural areas → reduced regional disparity

#4 How MSMES can help in achieving SDGs?

(1) Poverty alleviation →Local economic development → more jobs being created→ breaking vicious cycle of poverty → SDG 1, 8, 10
(2) Bring diversity of business and risks→ strengthen resilience of the economy→ SDG 9
(3) Utilization of locally endowed natural resources →environmentally conscious→ SDG 12, 13, 14, and 15.

#5 What are the opportunities in India for MSMEs?

(1) Less Capital Intensive → suitable to India (low middle income country)
(2) Extensive Promotion & Support by Government→ single window registration + credit facilities etc
(3) Reservation for Exclusive Purchase by Government → 25% procurement from MSMEs
(4) Export Promotion + branding →increase in accessibility of MSME products
(5) Growth in demand in the domestic market size due to overall economic growth

MSME (Part 2)

#1 What are the challenges faced by MSMEs?

(1) Policies creating Dwarfs (Firms = smaller + older than 10 years.) e.g. If the firms grow beyond the thresholds that these policies employ→ unable to obtain the said benefit.
(2) Out of formal network → 90% of the MSMEs informal
(3) Lack of investment from private sector → funds shortage → low innovation
(4) Credit non-availability + delay in payments ; even after govt procurement, funds are not released on time.
(5) Technology constraints + obsolete machinery → low production + productivity + quality (poor economies of scale)
(6) obsolete marketing strategy → poor branding + skeptic attitude towards their products
(7) maximum presence of semi skilled + unskilled workforce

#2 What are the steps taken by the government for promotion of MSMEs?

(1) UdyogAadhar Number: unique identifier → one stop solution for MSMEs offered by all Ministries + Departments.
(2) ASPIRE (a Scheme for Promoting Innovation and Rural Entrepreneurs) → setting up network of technology centers and incubation centers.
(3) Credit in 59 minutes scheme → cheap + fast access to credit → working capital and term loan worth Rs. 1 lakh to Rs. 1 crore.
(4) Atma nirbhar bharat abhiyan→Special attention to MSMEs
(5) Udyam registration (based on self certification) → To deal with informal nature → incentives attached to registration e.g. payment within 45 days.
(6) Subordinate debt scheme→ promoter will give credit to the MSME→government will bear the risk of loan to promotor by the bank.
(7) Funds of Fund Scheme →corpus of ` 10,000 crore → financial relief and funding to MSMEs
(8) CHAMPIONS portal→to help the MSMEs in terms of finance, raw materials, labour, permissions, etc.
(9) Trade Receivable System (TReDS) by RBI → for timely payment to MSMEs.
(10) Zero effect-Zero defect policy → for making MSMEs efficient and environment friendly.

#3 What measures you can suggest for further improvement of MSMEs performance?

(1) Greening of MSMEs → Efficient technology + green sectors like renewable energies
(2) Clusterisation model → eg Kanpur leather industry/Ahmedabad textile industry

(3) Implementing new labour codes → balance full time/part time workforce
(4) Providing cheaper electricity + natural gas to MSME→ Currently, power DISCOMs and city gas distribution companies do not permit MSMEs to procure their own electricity or natural gas → charge them higher rates than their global counterparts.
(5) Promoting sectors with high spill-over effects on other sectors e.g. Tourism → impact on hotel &catering, transport, real estate, entertainment etc. for job creation.
(6) Awareness generation regarding their IPR to register trademarks + patents.

ELECTRIC VEHICLES – Concept Classes

What are electric vehicles?

1) Either fully or partially powered on electric motor, instead of an internal combustion engine
2) Two basic types of EVs: **All-electric Vehicles** (AEVs) and **Plug-in Hybrid Electric Vehicles** (PHEVs).

#What is the difference between AEVs and PHEVs?

1) AEVs à powered by one or more electric motors à exclusively uses battery for energy à rechargeable by plugging into the grid à consume no petroleum-based fuel à no tailpipe emission

2) PHEVs à use batteries to power an electric motor whose battery can be recharged by plugging it into an external source of electric power or even by its on-board engine and generator.

#What is the status of EVs in India?

1) At present, EVs represent <1% of the total vehicle sales in India.
2) More than 30% of the new vehicle sales in India will be electric by 2030 (Global EV Outlook)
3) FY 2020à EV sales of 2 wheelers & buses à increased 21% & 50%; electric cars à5% decline
4) In January 2021, the maximum units were sold in Uttar Pradesh, followed by Bihar and Delhi.

What are significance of electric vehicles for India?

1) Mitigation of Global Warming à average 3% GDP loss every year
2) Controlling Air pollution à India has 21/30 global cities with the worst air pollution (World Air Quality Report, 2019) à much of the pollution load due to vehicular emissions
3) Boosts make in India à achieve manufacturing share of 25% GDP by 2022 à boosts employment
4) Large-scale adoption of electric vehicles à can save $60 billion on oil imports by 2030.

What are the challenges in promoting electric vehicles?

1) Batteries related à lithium & cobalt imported + Capital intensive + poor charging infrastructure
2) Policy related à Policy uncertainty + Lack of dedicated guidelines + high rates of GST
3) Apprehension of job losses à requirement of skilled labour + automation impact
4) Limited Grid Capacity àIndia is able to add only 20GW/ annum to its grid àIndia's EVs market needs a minimum of 10 GW of cells by 2022à extra demand à difficult task
5) EV related à Poor range on single charge + Most electricity generated from coal only

#What will it take for India to be ready for electric vehicles?

1) Enabling charging infrastructure + battery swapping model + improving electric grid capacity
2) Increasing R&D in technologies like fuel cells
3) Strengthening bi lateral relations à Chile, Bolivia, Australia, Congo à for Lithium and Cobalt.
4) Focus on increasing investments à Govt + private + FDI & favourable policies like tax cuts etc.
5) Formation of robust electric waste handling policy

#Why the future of electric vehicles appears bright in India?

1) Favourable government steps à
a) Setting up at least one EV charging kiosk at petrol pumps across the country
b) National Electric Mobility Mission Plan (NEMMP)
c) Faster Adoption and Manufacturing of (Hybrid) and Electric Vehicles (FAME) scheme
d) Tax benefits
e) Niti Aayog + ITF à decarbonising India's transport initiative
f) NTPC à commissioned its 1st EV charging station
2) Awareness and outreach campaigns à'Switch Delhi' Campaign.
3) Increasing Foreign investments like Tesla motors etc.
4) Categorization of Charging of batteries as service

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ENVIRONMENTAL IMPACT ASSESSMENT

What is environment impact assessment?

1. Planning tool to integrate the environmental concerns into developmental process.
2. UNEP →a tool used to identify the environmental, social and economic impacts of a project prior to decision-making
3. Right at the initial stage of planning and suggest necessary mitigation measures.
4. Under section 3 of EPA 1986, central government can restrict the areas in which any industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards

What is the process that needs to be followed under EIA?

1. Screening → whether the environmental + social impacts of proposed development project would be significant enough to develop an EIA. If not → environment management plan created.
2. Scoping → Establish the boundaries of the EIA + set the basis of the analyses that will be conducted at each stage + describe the project alternatives + consult the affected public.
3. Impact assessment and mitigation → Evaluate the socioeconomic and environmental impacts of the planned project and its alternatives + identify the mitigation measures to reduce those impacts.
4. Impact management →Prepare the plans required for addressing mitigation measures and other project risks, such as technological failures and natural disasters
5. EIA report → Pull together all the research and work done during the previous steps into a comprehensive, structured document.
6. Review and licensing → Designated authorities review the EIA report to determine if the planned project will get a license or if it requires amendments.
7. Monitoring → ensure that the mitigation measures, priorities listed in the EMP, and contingency plans are properly implemented and effectively address the project's impacts.

What are the salient features of 2006 amendment to EIA notification?

1. EIA in india started in 1976-77 → clearance was central administrative decision and lacked legislative support → later on given statutory backing under EPA 1986 + several amendments since then.
2. Decentralization of the environmental clearance projects →categorizing the developmental projects in two categories→ Category A (national level appraisal) and Category B (state level appraisal).
3. Category A projects →mandatory environmental clearance →no screening required + clearance by Impact Assessment Agency (IAA) + Expert Appraisal Committee (EAC)
4. Category B → Screening → (B1 = mandatory EIA, B2 = no EIA)+ clearance by State Level Environment Impact Assessment Authority (SEIAA) + State Level Expert Appraisal Committee (SEAC)
5. EIA cycle comprises of four stages → a)Screening, b)Scoping, c)Public hearing and d) Appraisal

What are the salient features of Draft EIA rules 2020

1. Reduced time for public hearing from 30 to 20 days
2. List of exempted projects have grown → small and medium cement plants, onshore-offshore oil – gas- shale exploration etc

3. Time period of compliance reports increased from 6 months to 1 year
4. Reporting of violation by public excluded

What are the issues involved?

1. Many projects with significant environmental impact → exempted
2. Weakening of public and strengthening of corporations
3. Post facto project clearance →violators will be able to apply for clearance→All a violator will need are two plans for remediation and resource augmentation corresponding to 1.5-2 times "the ecological damage assessed and economic benefit derived due to violation"
4. No remedy for political and bureaucratic strong hold
5. Restricting the information on "strategic" subjects from public domain → chances of misuse
6. Conflict of interest → : Consultants who do assessment are paid by project managers, so they generally try to give a favourable report → no system of accreditation or assessment of consultants.
7. Other issues →a) Experts committees formed to conduct EIA lack expertise, b) Public comments are not considered at an early stage → conflict at later stage, c) fraudulent EIA studies →e.g Mithivirdi nuclear project, d)Lack of administrative capacity to ensure compliance, e) periodic amendments exempting one category of industries or the other from scrutiny.

What should be done in order to make the EIA process more effective?

1. Independent EIA authority + independent consultants
2. Centralised baseline data bank
3. Dissemination of information to local communities
4. Expert committee → include all stakeholders + specialists.
5. Provision of automatic with drawl of clearance if conditions are violated
6. Capacity building of NGOs + civil society

#1 What was the need to bring farm laws by the government?

1. The major policy reforms of 1991 did not cover agriculture →agricultural growth remained stuck at the earlier level →excessive inequality between farm and non-farm incomes.
2. Need for liberalization of agriculture sector as per the WTO requirements (agri segments where market intervention by the government is either nil or very little→show 4–10% annual growth and MSP regime segment shows growth around 1.1%)
3. Domestic demand supply mismatch → few commodities in excess → few are imported in large quantities → poor market conditions + lack of infrastructure
4. Pressing need for improving export competitiveness of Indian agriculture.
5. Fregmented market + lack of investment from private sector due to restrictions

#2 What are the different farm laws and provisions brought by the government?

1. Farmers Produce Trade and Commerce (Production and Facilitation) act 2020;
    a. Facilitates barrier-free inter-state and intra-state trade and commerce outside the physical premises of APMC markets.
    b. Allows electronic trading of scheduled farmers' produce.
    c. Prohibits state governments from levying any market fee, cess or levy on farmers, traders, and electronic trading platforms for trade in an 'outside trade area'.
2. Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services act 2020
    a. Provides a legal framework to contract farming through an agreement between a farmer and
    b. Conciliation Board for resolution for effective dispute with stipulated timelines
3. Essential commodities (amendment) act 2020
    a. Provides regulation of the supply of certain food items, including cereals, pulses, potatoes, and onions, only under extraordinary circumstances such as war, famine, and extraordinary price rise.
    b. Provides for deregulation of production storage distribution and supply of in normal circumstances →allows agri-businesses to stock items without restrictions on quantity.

#3 What are the benefits of these farm law reforms?

1. Increasing choices with farmers → more competition → better prices → doubling income
2. Moving towards one nation - one market scheme + removal of "middleman" culture
3. Surge in private investment in agricultural processing and infrastructure → farm laws remove restrictions on storage and distribution + better grievance redressal.
4. Boost to food processing industries
5. Promotion of Contract farming → mechanization + better utilization of resources → increased benefit of both parties.

#4 What are the issues arising before different stakeholders due to these farm laws?

1. Issues to farmers → a) Fear of discontinuing MSP regime → Farm laws do not provide for the MSP b) Absence of any regulation in non-APMC Mandis → exploitation at the hands of corporate c) Lack of consultation with farmers → distrust d) Market economy still not suitable for Indian farmers (lack of education + poor market knowledge) e) Small-marginal farmer's vulnerability may increase.

2. Case study = These fears gain strength with the experience of States such as Bihar which abolished APMCs in 2006. After the abolition of mandis, farmers in Bihar on average received lower prices compared to the MSP for most crops.
3. Issues to states → a) Revenue loss → Mandis bring in huge revenue for them b) Agriculture in state list → act empowers centre to give directions → blow on federalism.
4. Issue to middleman → a) Job losses → lobbying against the laws.
5. Issue to public → As the middlemen help farmers to bring crops to market → due to lack of resources with farmers → supply constraints may arise → food inflation.

#5 What can be done to make the farm laws more inclusive and effective?

1. Statutory backing to MSP →to eradicate the fear of farmers.
2. Providing real time market situation data to the farmers
3. Complimentary reforms in logistics, electricity, cold storage etc. → needs government investment as there is lack of private investment here.
4. Awareness to farmers regarding their rights + legal machinery to enforce these rights.
5. Empowering farmers through State Farmers Commissions recommended by the National Commission for Farmers
6. Leveraging FPOs to improve the bargaining power and creditworthiness of the farmers.

Fisheries Sector – Concept Classes

#1 What is the current status of fisheries sector in India?

1. India → 2nd largest fish producer + 2nd largest aquaculture nation in the world after China.
2. India → 4th largest exporter of fish →contributes 7.7% to the global fish production.
3. The fisheries and aquaculture production contribute →1% to India's GDP + over 5% to the agricultural GDP.
4. Around 28 million people are employed in the fisheries sector in India.
5. Enhanced of fish production from 10.26 Million metric tons (2014-15) to 13.75 Million metric tons (2018-19).

#2 What are the opportunities for fisheries sector in India?

1. Long coastline + 1000(s) km of rivers →coastal + deep sea + inland fishing → blue revolution + blue economy.
2. Highly rich source of protein → help in reducing mal-nutrition from the country.
3. Huge demand from the international market → processed + un-processed fishes
4. Increasing value of ornamental fisheries
5. Government support → infra development + export incentives+ PMMSY (Pradhan Mantri MatsyaSampadaYojna)
6. Labour intensive sector → livelihood generation

#3 What are the issues being faced by the fisheries sector?

1. Tropical climate →High oil content in fishes + vast diversity of fishes present but it becomes unviable for commercial production as commercial production requires single type of species on vast scale.
2. Absence of large flat continental selves + intermixing of warm and cold ocean currents.
3. Highly fluctuating river regime + seasonal nature of rivers + rugged topography
4. Resource depletion→overalldecline in fish landings in an area +decreased catch-per-boat + increased landing of juveniles + fluctuations in seasonal availability of fish
5. Tariff and non-tariff barriers→Sanitary and Phytosanitary (SPS) barriers due to poor quality of fisheries and other sea food e.g. EU's implementation of strict plant hygiene requirements and zero tolerance on antibiotics.
6. Increasing operational cost due to modernization and capital investment in the sector
7. Absence of inclusive and people centred development →over-exploitation of the natural resources, affecting the sustainability of the sector.
8. Gaps/ambiguities/duplication/grey areas in data collection

#4 What is the need for transitioning towards sustainable fisheries development?

1. Adaptation + mitigation of uncertain climatic/weather events.
2. Increasing inequality → poor fishermen not getting enough attention
3. To control over exploitation of marine fisheries + enhancing quality.
4. To achieve SDG related to hunger/malnutrition and poverty
5. To counter objections by the developed countries at WTO on unsustainable fishing.

#5 What are the steps taken by the government in this regard?

1. **National Fisheries Development Board (NFDB)**→ autonomous organization to enhance fish production + productivity in the country + coordinate fishery development in an integrated and holistic manner.
2. **PRADHAN MANTRI MATSYA SAMPADA YOJANA**→to bring about Blue Revolution through sustainable + responsible + holistic development of fisheries sector+ welfare of fishers.
3. **Blue Revolution 2.0/ Neel Kranti Mission**→ developing fisheries in a sustainable manner keeping in view biosecurity + environmental concerns.
4. Current fiscal allocation →804.75 crore rupees for the fisheries sector
5. **Coastal Aquaculture Authority** (Coastal Aquaculture Authority Act, 2005) →to regulate coastal aquaculture activities for sustainable
6. **Fisheries & Aquaculture Development Fund (FIDF)** →to address the infrastructure requirement for fisheries sector.

#6 What further measures can be taken by India for transitioning towards sustainable fisheries development?

1. Controlling pollutants coming to rivers and oceans → to control destruction of fish habitats & frequent occurrence of Dead Zones/Hypoxic zones
2. Bilateral talks with Sri Lanka → to avoid frequent confrontation of Indian Fishermen with Sri Lankan Navy
3. Promoting R&D for the sector → to tackle increased use of Fibre Reinforced plastic (FRB), & poor-quality boats.
4. Improving access to credit for the fishermen + rice-fish farming system (co-culture system)→ combining animal production (for example fish, shellfish, crab, shrimp and ducks) in paddy rice systems.
5. Availability of quality feed for the fishes → to further increase share of inland fisheries
6. Focusing on meeting the targets of Paris Climate Agreement and SDGs.

Food Corporation of India's Relevance – Concept Classes

#1 What is food corporation of India and what are its objectives?

1. Public Sector Undertaking, under the Department of Food & Public Distribution, Ministry of Consumer Affairs, Food and Public Distribution.
2. Setup under the Food Corporation's Act 1964
3. Objectives → a) Effective price support operations b) Distribution of foodgrains throughout the country for public distribution system c) Maintaining satisfactory level of operational and buffer stocks of food grains to ensure National Food Security

#2 What is the relevancy of FCI in the present times?

1. Bedrock of entire national food security act → Ensures procurement and distribution to far flung areas → national food security
2. Covid crisis + migrant crisis → FCI tackled the challenges of hunger and starvation
3. Bedrock of PDS → fights malnutrition + poverty → inclusive growth
4. Purchases the crops at MSP → financial security to farmers + making agriculture remunerative
5. Supply chains disruption + private players not encouraged + high logistics cost → FCI to perform the essential services.
6. 60% of the cost of acquisition, procurement and distribution are transferred to the farmers → efficient system.

#3 What are the recent issues which have challenged the relevance of FCI?

1. FCI faces issues in all three areas→a) procurement b) storage c) distribution
2. Less than 10% farmers could sell to govt agencies → unaware /lack of access to msp system→ only big farmers of NW states benefitted
3. 3)FCI has stored double the grains than prescribed buffer limits →(a) shortage in open market and thereby inflation (b) rotten grains due to FCI's limited Storage capacity.
4. 40-60% of PDS grains are siphoned off (NSSO2011) → former chairman of FCI called it as "food corruption of India".
5. FCI's mounting debts have increased to an estimated ₹2.55 lakh crore by March 2020.

#4 What should be done in order to make FCI more relevant for the present times?

1. SHANTA KUMAR RECOMMENDATIONS - designating it as an "Agency for Innovation in Food Management Systems."
   a. Procurement stage → a) outsource procurement in better performing states like punjab but centralised procurement in states like Bihar Assam Bengal and eastern up, b) cash transfers to farmers' c) no more open-ended procurement; set buffer stock quotas d) stringent quality checks by third party.
   b. Storage stage → a) outsource its stocking operations to various agencies such as Central Warehousing Corporation (CWC), State Warehousing Corporation (SWC), Private Sector under Private Entrepreneur Guarantee (PEG) scheme b) automatic liquidation of excess buffer stock in open market c) strategic buffer reserve.

   c. Distribution stage → a) cover 40% under NFSA 2013 => less subsidy but more quantity b) End to End computerization c) Online tracking of entire system from procurement to retail distribution.
2. Transportation improvements → a) Integrating Road transport along with rail (presently very high dependence on rail), b) containers instead of gunny bag, c) inland waterways d) automation in loading and unloading.
3. Pre-positioning shipment policy to hotspots → for chronically starved areas, food grains could be stored nearer to the target population.
4. Doing away with the FIFO (first in – first out) principle → release hygienic food grains on time.
5. Network of SHG + FPO be leveraged → ensure last mile connectivity and distribution.

#1 What is food processing?

1. Variety of operations by which raw food stuffs are made suitable for consumption, cooking or storage.
2. Basic preparation of food + transforming from one form to other + preservation + packaging techniques→ value addition + increased shelf life.
3. Processes → washing + chopping + pasteurising + freezing + packaging + adding nutrients.
4. Eg. of processed foods → concentrated juices, instant foods, nutritious fish meal etc.

#2 Why is it so significant for India?

1. Raising farm income → Linking farmers to consumers → domestic + international market.
2. Employment generation →Engages around 1.93 mn people + aggregate output = $ 158 Bn.
3. High growth + high profit sector → accounts for 32% of India's food market.
4. Reducing wastages → NITI AYOG → estimated post-harvest losses = 90000 cr → grading + sorting necessary.
5. reduced malnutrition → fortified foods.
6. Boosting agro exports → reduced current account deficit.

#3 What potential and opportunities does food processing industry hold in India?

1. One of the largest in the world → expected to reach $ 535 Bn by 2025-26.
2. PMKSY → 41 Mega Food Parks, 353 Cold Chain projects, 63 Agro-Processing Clusters& 6 Operation Green projects → approved.
3. India = 300 mn tonnes (horticulture) + 200 mn tonnes (milk production) + 2nd largest producer of fish + diversity in crops due to many agro climatic zones.
4. Food Retail market → Food Grocery (growing at CAGR 25%) and Food Services (growing at CAGR 15%) segments.
5. Online food delivery businesses growing exponentially (150% yearly growth) → Zomato, Swiggy, Food panda.
6. Foreign investments also rising → Amazon, Uber eats, Parleagro.
7. Changes in life styles → fast to cook food becoming norm.

#4 What are the challenges associated?

1. Informalisation + unorganised nature → 75% of total products → inefficiencies.
2. High logistics cost (14%) + lack of cold storage and all weather connectivity → huge wastage + erratic supply.
3. Fragmented holdings + low productivity + high seasonality →small and dispersed market.
4. Overlapping + multiple jurisdictions → unnecessary delays.

5. Inadequate quality control + high taxes + duties + high cost of finance + erratic power supply to industries.
6. Behavioural reasons → Indians prefer fresh food; processed food is still considered as stale and unhealthy by large section of society.

#5 What steps have government taken in this regard?

1. Pradhan mantri kisan sampadayojna (PMKSY) → mega food parks + integrated value chains + agro processing clusters.
2. PM formalisation of micro food processing enterprises scheme (PMFME) → providing financial, technical and business support for upgradation of existing micro food processing enterprises.
3. Operation greens → dedicated focus on tomato, onion potato; now upgraded to all fruits and vegetables.
4. Production linked incentives scheme for food processing sector → to incentivise incremental sales + inviting foreign companies + expand domestic units.
5. 100 % FDI in marketing food products.
6. Dairy processing infrastructure fund worth Rs. 8000 cr.
7. Scheme for human resource development in food processing sector → a) degree/ diploma course b) entrepreneurship dev programme c) food processing training centres.

#6 What should be done to boost the sector in post covid times?

1. Stringent hygiene and quality norms → total quality management (TQM) IS0 9000, ISO 22000.
2. Proper implementations of recent farms laws especially the essential commodity amendment act + Model contract farming act 2018.
3. Increasing storage and infrastructure facilities → multi modal logistics + cold storage grid + scientific warehouses.
4. Raise stakes in global value chains → port facilities.
5. Reforms in agriculture marketing → E-NAM + uniform implementation of APMC act + village level. procurement (recommended by NITI ayog strategy for new India @ 75).

Food Security in India – Concept Classes

#1 What is food security and what are its important components?

1. F.A.O → all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life.
2. Elements of food security → a) availability (having sufficient quantities of appropriate food available) b) accessibility (having adequate income or other resources to access food) c) utilisation/consumption (having adequate dietary intake and the ability to absorb and use nutrients in the body).
3. Components of food security system in India → a) Buffer stock and b) PDS.

#2 Trace the evolution of food security in India and discuss the steps taken in that regard.

1. 1950s → State Government begin enacting their APMC Acts to 'protect' farmers. But it fails to curb the nuisance of middlemen, hoarding and inflation.
2. 1960s → Green revolution + FCI made + MSP started for wheat and rice.
3. 1970s → white revolution.
4. 1980s → CACP to recommend MSP for several crops based on certain economic criteria, FARP started for sugar.
5. 1990s → Decentralised procurement (states will procure) + TPDS launched + Mid-day meal scheme.
6. 2000s → Antyodaya anna yojana → focus on poorest of the poor + National food security mission.
7. 2013 → NFSA → legal guarantee to provide subsidised food grains to around 67% population.
8. Latest initiatives → ONORC, biofortification, fat tax, Rashtriya Krishi Vikas Yojana, National nutrition mission and national nutrition strategy.

#3 What is the present status of food security in India?

1. India → share 25% of the world hunger burden + largest number (200 mn) of under nourished people.
2. India going through double burden of disease → undernourishment not reduced + over nourishment increasing.
3. NFHS-5 → malnutrition + stunting + wasting → increased.
4. 4/10 children not meeting their human potential because of chronic under nutrition.

#4 What are the challenges which are hindering India to achieve universal food security?

1. Reduced land and agriculture productivity → a) diversion of land for infrastructure and biofuels b) excessive chemicals use and c) soil degradation d) ground water crisis.
2. Maladministration → corruption, leakages, wastage and poor state procurement system.
3. Inefficient distribution → poor logistics, remote and inaccessible areas.
4. Policy issues → MSP skewed towards few crops, ONORC still not completely functional, unmonitored nutritional programs, lack of dedicated migration policy → unregulated slums → food insecurity.

5. Social challenges like overpopulation, poverty, lack of education + awareness (about varied dimensions of food security like sanitation, safe drinking water, micro nutrient needs of the body) and gender inequality → vulnerable section more insecure.
6. Rising weather extremities and disasters.

#5 What future strategy should be adopted by India?

1. Agriculture innovations → a) integrated water, pest and nutrient management b) changes in cropping pattern as per agro-ecological zones.
2. Policy reforms → end of open-ended procurement system, automatic liquidation policy, rationalising MSP, DBT/food coupons and FCI reforms (Shanta Kumar).
3. Infrastructure build-up → multimodal logistics, cold storage, scientific warehouses and using containers instead of gunny bags.
4. Awareness and sensitisation + life cycle approach of dietary nutrients → leverage SHG and PRIs.

Case study :- In India, women's self-help groups, supported under the National Rural Livelihood Mission co-financed by the World Bank, have mobilised to run community kitchens and restore fresh food supplies, provide food and support to vulnerable and high-risk families. These self-help groups, built over a period of 15 years, tap the skills of about 62 million women across India and have proven the worth of a community-based institutions in a time of need.

GLOBAL VALUE CHAIN – INTEGRATING THE WORLD ECONOMY

Context → Covid pandemic has caused large scale disruptions in global supply chains.

#1 What do you mean by Global value chain?

(1) International production sharing →production broken into activities + tasks carried out in different countries.

(2) Acc to World Bank→ GVC = series of stages in the production→ Each stage adds value.
eg- a bike assembled in France with parts from Germany, Italy, and Malaysia and exported to the Arab Republic of Egypt is a GVC.

Note : supply chain = all parties in fulfilling a customer request → customer satisfaction,
value chain = interrelated activities a company uses to create a competitive advantage.

#2 How it leads to Integration of world economy?

(1) Multiple geographical locations→ countries working together→ globalization → Integration of the world economies.

(2) Interdependency of the countries increase→ integration

#3 Why GVCs are important for overall growth of the world economy?

(1) Powerful driver of productivity + efficiency → country having specialities are involved
(2) Access to international market increase
(3) Diversification of export sector → number of products from diff countries increase
(4) Following international standards →Quality + R&D + Technological Advancement
(5) Improving Employment opportunities
(6) Knowledge and ideas sharing

#4 What measures countries can take to tap the potential of GVC?

(1) Upgradation of local companies
(2) Diversification of skill sets of workers
(3) Upgradation of Infrastructure→ Multimodal logistics, port facilities etc
(4) Conditional FDI→ eg : incentive to foreign companies giving employment with environmental sustainability.
(5) Simple taxation regime.

#5 What is the future potential of India in global value chain?

(1) Shifting of global manufacturing base→India emerging as hub
(2) Low-cost labour + high class technology available
(3) Dedicated focus towards EODB
(4) Make in India mission + Start up India mission
(5) Mega infra projects → sagarmal, setubhartam, freight villages, INSTC, asian highway project, Blue dots network and QUAD

#6 Why integrating with global value chains crucial for India?

(1) GVC → Upgradation of infra→ policy reforms→ employment generation→ economic growth→ reduction of poverty. (1% increase in GVC participation → per-capita income increase by more than 1%)
(2) Improved Firm level productivity→ improved profits→ improved tax collection
(3) Interconnected regimes →build resilience, stability and flexibility in the production networks
(4) To mark its presence in the global economic order eg: pharmaceutical sector → reducing dependence on China.

Green Revolution – Concept Classes

#1 What is the Green revolution?

(1) Green revolution refers to the transformation of methods/operations in agriculture in order to boost the production and productivity with the introduction + development of HVY seeds.
(2) Agricultural system converted = industrial system.
(3) The three important components a) Irrigation facilities b) Chemical fertilizers c) Machines
(4) Objectives: a) short term – to address India's hunger crises b) long term – agricultural modernisation, industrial development and rural development.
(5) Rice + Wheat = key crops in India's green revolution.

#2 What was the historical context?

(1) Seeds of green revolution → Mexico in 1960s
(2) Term "green revolution" was coined by William S. Gadd in 1968. But the father of GR = Norman e Borlaug
(3) India specific → After independence → population rise, wars, inflation, poverty => food insecurity
- PL 480 programme where India relied on USA for its food needs.
- 1961-india on brink of mass famines
- 1960s-beginning of green revolution in India.

#3 What have we gained from the green revolution? (MERITS)

(1) Rise in production + productivity → India = "self-reliant" in food grain production.
(2) Increased exports + reduced imports =>Reduced current account deficit.
(3) Raised farm income + employment diversification => Better socio-economic outcomes in health and education sector.
(4) Mechanisation and commercialisation of agriculture → Support to Industries => developing inter-industrial linkages. Food processing sector is the sunrise sector.
(5) Regional development; especially the north-west India.
(6) PDS-MSP-NFSA system started in later years to ensure food security

#4 What cost have we paid? (CRITICISMS)

(1) Reduced inter crop and intra crop diversity → nutrition rich crops (pulses, fruits and vegetables) lagged behind.
(2) Regional inequalities rose → the western and eastern India.
(3) Income inequalities rose; small and marginal farmers, landless labourers were at disadvantage.
(4) Deterioration of natural resources a) depletion of groundwater (rise in uranium, arsenic and fluoride contamination (b) Soil erosion + land degradation (c)eutrophication
(5) Environmental pollution due to stubble burning and delaying of sowing of kharif crops.
(6) Health impacts → imbalanced use of chemicals (NPK) (a) disorders like methemoglobinemia (b)biomagnifications + bioaccumulation (c) rising cases of cancer in states like Punjab
(7) Food mismanagement due to violation of buffer stock norms.

Note: Economic survey 2019-2020 has pointed out – "Agriculture growth is stagnant in last 6 years"

#5 How to move from green revolution to ever green revolution?

(1) Diversification from farming to allied activities – livestock, fisheries, poultry and horticulture.
(2) Focus on eastern region => bringing green revolution to eastern India (BGREI)
(3) Implementing government schemes => krishnottiyojanaparamparagatkrishivikasyojna, mission for integrated development of horticulture rashtriyagokul mission.
(4) Crop Diversification=> pulses, vegetables, fruits etc
(5) Extension services and intensive farmers awareness programs
(6) Field trials=> Innovative practices=>natural farming, zero budget farming, lee farming etc.

Inclusive Growth – Concept Classes

#1 What do you understand by Inclusive growth and what are its elements?

1. A multi-dimensional concept→economic growth that is distributed fairly across society and creates opportunities for all → benefitseveryone→reducing the disadvantages faced by the poor→not restricted to poverty reduction alone.
2. Basic principle → equity
3. Comprises both **outcomes** and **processes**, involving **participation** and **benefit-sharing.**
4. Elements of Inclusive Growth: a) Social development b) equitable + fair distribution of income c) Good governance d) economic development e) equal opportunity f) environmental protection

#2 What is the need of having an inclusive growth in India?

1. To achieve the overall progress of the country→ with equity + sustainable development.
2. To attain certain targets relating to poverty, employment, education, infrastructure, health, women and children, gender equality, regional equality etc.
3. To present itself before the world as the leader of holistic development of people.
4. To reap the full potential of its demographic dividend → preparing for technological change (IR4 technologies) and shifting employment patterns (from industry to services and from traditional to modern).
5. To ensure political stability → high inequality→ sign of falling state.

#3 What are the challenges before India in achieving an Inclusive growth?

1. High inequality + poverty→India's gini coeff= 0.35 (world Bank) + top 10% of the Indian population holds 77% of the total national wealth (OXFAM International) +300 million people still live in extreme poverty (UNDP)
2. Lack of access to basic services→good healthcare + quality education
3. Excess reliance on informal sector: 80% of the labour force →excluded from accessing many of the resources and thereby improve their life chances.
4. Social stratification on the lines of gender, caste and religion + diverse desires →eg; city people vs tribal people
5. Lack of financial inclusion: according to World Bank→190 million adults in India do not have a bank account; India=world's second largest nation in terms of unbanked population after China.
6. Rise in unemployment rate: sharply rose to 7.11 per cent in 2020.

#4 What are the measures taken by Indian government for inclusive growth?

1. Progressive taxation policy →income redistribution + money with govt → spent for inclusive growth.
2. NITI Aayog's Strategy for New India @75 → Government to make economy, social services and environment inclusive of all sections of the society. E.g→ one of the objectives: cities to ensure that urban poor and slum dwellers including recent migrants can avail city services.
3. MGNREGA →to control seasonal unemployment.
4. PM Jan DhanYojana→to improve financial inclusion.
5. PM Jeevan JyotiBima Yojana + PM SurkhshaBimaYojana→ for improving social inclusion.
6. Start-up India + Make in India → for inclusion of MSMEs in the larger economy.
7. Labour codes for formalization of economy
8. Pt. DeenDayalUpadhyayaGrameenKaushalyaYojana (DDU-GKY)→ for skill improvement of demographic dividend of the country.

9. National Rural Health Mission (NRHM) + Mission Ayushman : for making health accessible and affordable for all.
10. New Education policy to make education inclusive and effective.
11. #Accessible India Campaign.

#5 What are the indices that help in measuring inclusive growth?

1. Global hunger index→measure and track hunger at the global, regional, and national levels. Four indicators: a) undernourishment b) child wasting c) child stunting d) child mortality.
   2020 Global Hunger Index→India = 94th/107 countries→India has a level of hunger that is **serious**
2. Human development report (UNDP) → a) MDPI (covering 10 multi dimensional indicators) b) HDI-GDI (longevity + education (Expected years of schooling+ Mean years of schooling) + income per capita) c) gender inequality index (reproductive health + empowerment +labour market)
3. OXFAM REPORTon Inequality: a) combined total wealth of 63 Indian billionaires>total Union Budget of India for the fiscal year 2018-19 b)female domestic worker 22,277 years to earn what a top CEO of a technology company makes in one year c) rich are getting richer and poor are getting poorer d) India's richest 1 per cent hold more than four-times the wealth held by 953 million people who make up for the bottom 70 per cent of the country's population.

Indian Horticulture - Challenges and Options

#1 What do you understand by the term Horticulture?

1. A science + art of production + utilisation + improvement of fruits , vegetables, spices condiments, ornamental, plantation, medicinal and aromatic plants
2. A branch of agriculture concerned with intensively cultured plants e.g. floriculture, olericulture, pomology etc.
3. Horticulture revolution → Golden Revolution

#2 What is the current status of Horticulture in India?

1. India → 2nd largest producer of fruits + vegetables in the world
2. 1st rank in the production →Banana, Mango, Lime & Lemon, Papaya and Okra
3. Horticulture production →more than doubled roughly from 2001-02 to 2018-19→increase of 5.81 mt in FY21 over FY20.
4. Total horticulture production → 3.12 per cent higher in FY20 as compared to FY19.
5. Area under horticulture →projected to rise 2.7 per cent during FY21, against the previous year.
6. Share of horticulture in agricultural production (Agri-GDP) → more than 33%.

#3 What can be the advantages of having a well-developed horticulture sector in India?

1. Crop diversification → soil conservation + resilient agriculture + promotion of organic farming
2. Diversification of export basket →Better opportunities
3. Labour intensive nature →Employment generation
4. Better earnings → better livelihood standards of farmers →
5. Diversification of food basket → fight against malnutrition
6. Potential for development of wastelands through planned strategies
7. High potential of value addition → backward linkages for food processing industry
8. Need comparatively less water than food crop → comparatively climate resistant →help in climate change adaptation

#4 What are the challenges being faced by the horticulture sector in India?

1. Limited availability of market intelligence → poor marketing options
2. Fragmented landholdings → lack of economies of scale → higher production cost→ uncompetitive
3. Lack of connectivity and infrastructure → perishable in nature → high post-harvest losses + huge wastages + high price fluctuations
4. Lack of awareness among small farmers regarding processing facilities
5. Stiff competition in the international market + lack of R&D for quality improvement + Tariff + non-tariff barriers

#5 What are the steps already taken by the government in this regard?

1. **National Agriculture Policy 2000** → integrated development of horticulture, which should be **knowledge based, technology driven and farmers'- centric**.
2. **Mission for Integrated Development of Horticulture (MIDH)**→ a) National Horticulture Mission (NHM) b) Horticulture Mission for North East and Himalayan States (HMNEH) c) National Horticulture Board (NHB) d) Coconut Development Board (CDB) & e) Central Institute of Horticulture (CIH), Nagaland

3. **Horticulture Area Production Information System (HAPIS)** → web enabled information system by which data from the states/districts is reported →minimises the time-lag and maximises the coverage area.
4. **Coordinated programme on Horticulture Assessment and MANagement using geoinformatics (CHAMAN)**→ to develop & firm up scientific methodology for estimation of area & production under horticulture crops → using Remote Sensing and Sample Survey Techniques.
5. Establishment of agriculture export zones + Mega food parks → to increase processing facilities for horticulture crops
6. Amendment in APMC act and essential commodities act + allowing contract farming
7. Operation Greens (on lines of operation flood) → holistic development of TOPs + now extended to all fruits and vegetables

#6 What are the further options available before the country for development of this sector?

1. More focus on R&D and technological advancement + Diversification of horticulture produce
2. Handholding of small & marginal farmers → horticulture education and training
3. Provision for assured returns + incentivisation for horticulture production
4. Involving cooperatives + NGOs for dissemination of information
5. Modified atmosphere packaging for long storability & transportation of fruits & vegetables.
6. Better marketing support + infrastructure development.
7. Protected cultivation, hydroponic &aeroponic adoption →for improving productivity and quality of produce.

Indian Pharma Sector – Opportunities And Challenges

#1 What is the present status of India's pharma sector?

(1) India = pharmacy of the world → supplies 50% of the global demand for vaccines.

(2) Largest provider of generic drugs; 3rd largest in terms of volume.

(3) Regulated → Drugs & cosmetics act1940; CDSCO = approval of new drugs, clinical trials, coordination.

#2 What are its locational factors?

(1) Footloose industry → independent of specific local resources.

(2) Raw materials → proximity to petrochemical hubs or ports → inter industrial linkages

(3) Proximity to market →reduced transportation cost

(4) Capital availability

(5) Skilled labour

(6) Efficient transportation

#3 What are the challenges?

(1) High dependence on China for raw materials (APIs)

(2) Lack of research components

(3) Fragmented industry

(4) Fake version of high value brands → spurious medicines → competitiveness hurt

(5) Government policies like price capping, IPR policies → profits + investor confidence reduced

(6) Marketing malpractices → nexus among pharma companies and doctors, misleading advertisements,

#4 What are the opportunities?

(1) China facing shortage of raw material

(2) Huge population and diversity → suited to clinical trials and indigenous medicines

(3) Lifestyle diseases rising

(4) Health insurance (penetration + density) increasing

(5) Government focus → ayushman bharat, pharma vision, rashtriya arogya nidhi, national digital health policy, national digital health mission (NDHM) and National biopharma mission.

(6) Medical tourism.

#5 What recent opportunities have emerged due to Covid?

(1) India → supplier of medicines like hydroxychloroquine to USA

(2) Development of "vaccine diplomacy"

(3) Scope of R&D increased → private players participation boosted

(4) Market expansion → domestic + external

#6 What are the solutions?

(1) Small scale raw material manufacturing units/incubators industry-academia tie ups

(2) Integrating all the, medical systems → Ayush

(3) Promoting ease of doing business, e-pharmacy, pharma parks

(4) Developing "medical diplomacy".

(5) Implementing Maleshkar committee recommendations → strengthen state drug control organisations, setting national drug authority.

INDUSTRY 4.0/FUTURE OF WORK- CONCEPT CLASSES

#1 What do we mean by Industry 4.0/industrial revolution 4.0?

(1) Phases of industrial revolution ;
 (a) phase1→ mechanisation + water and steam power
 (b) phase2 →electricity + iron steel, rail lines
 (c) phase 3 → cyber systems + automation
 (d) phase4 → cyber physical systems.
(2) Key elements → fusion of technologies ranging from the physical, digital to biological spheres.
(3) Describes → growing trend of automation + data exchange in technology + processes within the manufacturing industry.
(4) Four fundamental principles →
 (a) interconnection
 (b) information transparency
 (c) Technical assistance
 (d) decentralised decisions
(5) Includes→ Internet of Things (IoT) + Industrial Internet of Things (IIoT) + Cyber-physical Systems (CPS) + Smart Manufacturing + Cloud Computing + Big Data + Robotics + Cognitive Computing + Artificial Intelligence.

#2 Why is it called future of Work? (Impacts on nature of work)

(1) Technological revolution→fundamentally alter the way we live, work and relate to one another.
(2) Technology→ almost all the sectors → Improves efficiency and effectiveness; eg 3D printing used for shoe manufacturing by adidas.
(3) Protects→ environment→ achieving SDGs
(4) Increase the volume+speed → accessibility
(5) Alternative to physical workplaces → professional + personal life balance.

#3 What are the challenges?

(1) Old pedagogy practices in schools colleges→ Lack of skilled personnel
(2) Fear of job losses → semi skilled + unskilled workers discriminated
(3) Income inequality + Gender inequality →digital resources limited to dominant sections.
(4) Digital divide → accessibility restricted
(5) Cyber attacks
(6) 3D manufacturing →ethical issues ; eg-piracy because files can be easily copied
(7) Poor funding for R&D→ indigenous base not developed→ dependence on foreign players.

#4 What are the ways to tackle these challenges?

(1) Promotion of investments in digital infrastructure.
(2) National education systems → development of competencies in ICT and STEM
(3) Capacity building programme→new skills
(4) Competitive grants→R&D promotion
(5) Regulatory frameworks → data protection (personal-BN srikrishna panel) + non personal data (Kris Gopalkrishna committee)

#5 Is India prepared for this revolution?

(1) Demographic dividend + Presence of skilled workforce in IT→ can be tapped.
(2) Fast growing market size →rise in investors confidence
(3) New education policy specifically focussing on practicle knowledge
(4) Digital India Mission → Improved Digital Infra
(5) Tele-density ~ 93% and ~ 50 crore Indians →mobile phones.
(6) MSME→ at forefront of 4IR→ Handholding by the government
(7) Dedicated govt focus →Samarth udyog bharat 4.0

Investment Models – Concept Casses

#1 What are investment models?

1. Specifies the modes in which funds are invested in specific assets through which income is generated.
2. Three broad types; a) pubic investment models b) private investment models c) public-private partnership models.
3. Public investment model → government plays the role of raising and allocating the resources→ sources of revenue = (revenue receipts and capital receipts)
4. Private investment model → the private players raise and allocate the resources→ include domestic + foreign players (FDI, FPI, FII)
5. Public-private partnership model → collaboration between government agencies and private sector→ (BOLT, BOT, BOOT, BOO etc)
6. Recent innovative PPP models → Hybrid annuity model, Swiss challenge model, land lord model, GOCO model, VGF

#2 What are the prevailing issues in India's investment models?

1. Lower government revenues + high expenditure → low tax receipts, high subsidy bills, reduced investment, Covid induced disruption.
2. Poor resource mobilisation → uneven distribution of natural resources → untapped potential
3. PPP issues → multiple clearances required, corruption, cost and time over runs.
4. Relatively high government interventions → Regulatory cholesterol + red tapism + frequent change of policies → investors discouraged.
5. Ineffective coordination among different ministries.

#3 What are the recent steps taken by government in this regard?

1. Ease of FDI inflows → 100 per cent foreign investment in coal mining + contract manufacturing, + approved 26 per cent foreign investment in digital media.
2. Policy initiatives to promote "ease of doing business" → single window clearance systems + e – filing of documents.
3. 3-pronged strategy in budget 2021 → a) DFI b) Monetising the public sector assets c) Increasing capital expenditure.
4. Streamlining regulatory ecosystem → GST, labour codes, refining of MSME definition

#4 What were the recommendations of Vijay Kelkar committee on PPP model?

1. Contracts need to focus more on service delivery instead of fiscal benefits.
2. Infrastructure PPP adjudication tribunal (IPAT) to be created.
3. Amend prevention of corruption act 1988 to distinguish between genuine errors of decision making and acts of corruption.
4. Promote good governance by creating SPV (special purpose vehicle) + discourage government participation in SPV unless strategically essential.
5. Prudent utilization of viability gap funds where user charges cannot guarantee a robust revenue stream.

IPCC 6TH ASSESSMENT REPORT – 2021

#1 What is IPCC and its 6th assessment report2021?

1) Intergovernmental panel on climate change (United Nations body) → assess the science of climate change + guide policy makers to form policies.
2) Assessment reports→determines the state of knowledge on climate change→ So far it has released 5 assessment reports (AR)→ a) AR-1 in 1990, b) AR-2 in 1995, c) AR-3 in 2001, d) AR-4 in 2007, e) AR-5 in 2014
3) 6th Assessment report →Assessment of the climate change on physical science basis.
4) Talks about →a) Current status of climate change, b) Human influence, c) Possible climate futures, d) regional analysis and e) limiting human influence.

#2 What is the current status of climate change according to the report?

1) GHG gasses concentration in the atmosphere → risen since 1970s
2) Since 2011→concentrations continue to increase reaching 410 ppm for carbon dioxide (CO_2),
3) Global surface temperature in 2011- 2021→1.09°C higher than 1850–1900.
4) Larger increases over land (1.59°C) than over the ocean (0.88°C).
5) Hot extremes→more frequent and intense, while cold extremes→less frequent and less severe.
6) Marine heatwaves→doubled in frequency since the 1980s.
7) The frequency and intensity of heavy precipitation events have increased since the 1950s over most land area

#3 What is the quantitative assessment of the human influence?

1) Well-mixed GHGs contributed a warming of 1.0°C to 2.0°C
2) Other human drivers (principally aerosols) contributed a cooling of 0.0°C to 0.8°C.
3) Natural drivers changed global surface temperature by –0.1°C to 0.1°C.
4) This means → Net rise of temperature 0.9 to 2.9C

#4 What are the future climate predictions by this report?

1) Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO_2 is done.
2) Increased frequency + intensity →hot extremes + marine heatwaves + heavy precipitation + ecological droughts + tropical cyclones + reductions in Arctic sea ice, snow cover and permafrost.
3) Upper ocean stratification + ocean acidification + ocean deoxygenation will continue to increase in the 21st century→ Changes are irreversible on centennial to millennial time scales
4) The Atlantic Meridional Overturning Circulation is very likely to weaken over the 21st century for all emission scenarios.

#5 What does this mean for India?

1) India expected to see → higher severity of heat waves ++ forest fires + tropical cyclones
2) Short duration + high intensity rainfall over SW coast.
3) Monsoon precipitation → increase in mid- to long term over South Asia.
4) High occurrence of glacial lake outburst floods + flash flood + landslides
5) Regional mean sea level rise → coastal flooding

#6 What has report said about limiting the future climate change?

1) Global collective efforts (especially the NDCs under Paris deal) fall far short of what is required by science to limit global temperature increases by the end of the century to 2C, let alone the desired objective of less than 1.5C.
2) Large scale rapid, sustained and large-scale reductions of climate change-causing greenhouse gas emissions, including CO_2, methane and others, are required.
3) Anthropogenic CO_2 removal (CDR) has the potential to remove CO_2 from the atmosphere and durably store it in reservoirs leading to net zero / net negative emissions.

Irrigation In India – Concept Classes

#1 What is irrigation and what are the different types of irrigation practised in India?

1. Artificial application of water to the agriculture field → alternate + supplement to rain water.
2. Assists in the growth of agricultural crops and plants →maintain adequate soil moisture, suppresses weed growth and supplies nutrients (fertigation)
3. Types → a) Well and tube well irrigation b) canal irrigation c) tank irrigation d) drip irrigation e) Sprinkler irrigation f) furrow irrigation g) sub irrigation

#2 What are the factors responsible for difference in irrigation system across India?

1. Soil structure and composition → alluvial soils are soft soils → a) high ground water levels facilitating tube well irrigation b) easy to dug → canal irrigation (Satluj plains- Punjab)
2. Climate → arid + semi-arid climate → lack of rains and rivers → tank irrigation suitable (Rajasthan and interior Maharashtra)
3. Crops →Water intensive or taller crops → basin irrigation more suitable (rice cultivation in up-Bengal)
4. Water availability → if water stress areas → drip and sprinkler irrigation successful (rain shadow areas of Karnataka)
5. Capital → surface irrigation methods (eg-building canals) and drip + sprinkler → high initial investment but tubewell + wells → low investment + higher freedom

#3 What is the present status of irrigation in India?

1. Overall irrigation efficiency of the major and medium irrigation projects = around 38%
2. Irrigated area accounts for nearly 48.8% of agricultural land in India. The remaining 51.2% is rainfed.
3. Mean productivity of rainfed area=1.1 tonne/ha compared to 2.8 tonne/ha of irrigated area.
4. The gap between irrigation potential created (IPC) and irrigation potential utilised (IPU) is increasing (2002; 13.95 Mha → 2018; 23.2 Mha)

#4 What are the challenges in India's irrigation system?

1. Reducing water availability→ per capita water availability in India has reduced from 5,177 cubic metre (cm) in 1951 to 1,508 cm by 2014, and is likely to reduce further to 1,235 cm by 2050.
2. High leakages from canals → reduced efficiency + water logging conditions
3. Policy level issues → incomplete projects (approx 500 projects yet to be completed) + time and cost over runs + populist policies like free electricity → huge wastage
4. Droughts + heat waves→ high evaporation + drying up of resources
5. Climate change → negatively impacting the hydrology and water resources of India
6. Lack of awareness → poor rainwater harvesting + no attention towards traditional irrigation systems + excessive usage and wastage + high salinity

#5 What steps has government taken in this regard?

1. Pradhan mantra krishisinchaiyojna (PMKSY) →extending irrigation cover ("har khet ko pani") + improving water use efficiency ("per drop more crop")
2. Command area development programme to maintain the irrigation canals.
3. Long term irrigation fund (LTIF) through NABARD → financial assistance
4. KUSUM → solarisation of pumps + subsidised credit
5. MGNREGS →implementation of water conservation and artificial recharge structures.
6. Jal shakti Abhiyan for water conservation and management
7. National programme on spring shed management by NITI AYOG to focus on hill areas natural irrigation.

#6 What should be done further to improve India's irrigation efficiency?

1. River interlinking + Lining of canals to reduce seepage + afforestation along canals and river banks.
2. Encouraging micro irrigation to enhance the water use efficiency upto 90%.
3. Reviving of traditional irrigation systems like "aharpynes" of Bihar → based on flood water harvesting.
4. Focussing on in – situ moisture conservation →mulching + lee farming + rain water harvesting
5. Water pricing should be done rationally + ideas can be taken from Punjab's "pani bachao paisa kamao" scheme.
6. Rationalising cropping pattern as per agro ecological zones.

LABOUR REFORMS (Part 1)- Concept Classes

#1 What do you mean by labour reforms?

(1) Steps to increase production + productivity + employment opportunities without compromising worker's interest.
(2) Protection + strengthening of worker's rights.
(3) Balancing industrialist + workers interest.

#2 What were the major central legislations made in post independent period?

(1) Industrial Disputes Act 1947 → layoff + retrenchment + closure of industrial enterprises + strikes+ lockouts.
(2) Factories act 1948 → safety measures on factory premises + health and welfare of workers.
(3) The Minimum Wages Act, 1948 → skilled and unskilled labours.
(4) Employee providend funds act and employee state insurance act → social security

#3 What were the existing gaps?

(1) Multiple and complex set of laws →high inter-state variations→technical language→ difficult compliance and enforcement→foundation for corruption, rent seeking and exploitation
(2) Inflexible laws→firms (employing>100 workers)→require govt approval for firing workers→no new hiring.
(3) High degree of informalisation→90% → laws not applicable→poor social security
(4) Gender discrimination→unequal wages → poor enforcement of minimum wages act
(5) Issues with trade unions→multiples numbers→ frequent strikes + inter-union rivalry + politicisation → industrial disputes act unclear about the union's rights
(6) Lack of formal jobs + nexus with enforcement officers→ Contractualisation + exploitation of labour
(7) Share of manufacturing decreasing→16.6% in 1990→ 13.7% in 2019

#4 what steps were taken by the govt to fill these gaps?

(1) Legislative reforms→
  (a) payment of bonus amendment act (the bonus bracket was increase→ more workers to get bonus),
  (b) maternity benefit act 2017(extended maternity leave, crèche facilities etc)
  (c) child labour prohibition and protection act (complete prohibition of employment of children below 14 years except family business + stricter punishment for violators)
(2) Governance reforms→ fixed term employment, ease of compliance for establishments etc
(3) EPFO initiatives →employee enrolment campaign, Reduction in administrative charges etc
(4) Number of schemes →labour identification number, atal pension yojna, national child labour protection scheme, aids to child and women labour etc
(5) Codification of labour laws.

LABOUR REFORMS (PART-2) – CONCEPT CLASSES

#1 What are the labour codes recently formulated by the govt?

(1) Set of regulations→consolidating central labour laws in 4 categories
(2) Recommendations by Second Labour Commission (1999)
(3) Four codes → a) Code on wages b) Code on industrial relations c) code on social security d) Code on occupational safety, health and working conditions.

#2 What are the features of these codes?

(1) **Wage code**→ a) Floor wage fixed by Centre, b) Fixing the minimum wage→ must be >floor wage + revised every 5years, c) Overtime Wages→ must be at least twice the normal rate of wages, d) Wage deduction should not exceed 50% of the employee's total wage, e) no gender discrimination.
(2) **Code on industrial relations**→ a) prior permission from the govt for closure, lay-off and retrenchment for an establishment having at least 300 workers, b) Negotiating Union→one having >51% of the workers as members = sole negotiating union c) Negotiating council→if no sole negotiating union→representatives of unions that have at least 20% of the workers as members. d) industrial tribunals for settlement of disputes.
(3) **Code on social security** → a) Social security fund by centre as well as states for unorganised workers, gig workers and platform workers, b) National Social Security Board→recommend + monitor schemes, c) In case of pandemic/epidemic/disaster→ contributions to PF/ESI can be reduced.
(4) **Code on occupational safety** → a) occupational safety board at national + state level, b) valid for establishment > 10 workers, c) welfare facilities at premises.

#3 What are the merits of these codes?

(1) Simplification of laws →reduction of overlapping + contradictory + multiple definition-based provisions.
(2) Inclusive nature → for the first-time gig worker + migrant workers included + social security for self-employment sector.
(3) Reduced chances of "unionisation" → collaboration →efficient dispute resolution
(4) Institutional mechanism → NSSB to recommend + monitor schemes
(5) Federal spirit respected → states given power to decide for their own minimum wage above floor wage.

#4 What are the limitations in these codes?

(1) Lack of clarity→ in case no union has required support of at least 20% workers
(2) enforcement of tribunal award →govt may defer it on certain grounds →aim defeated
(3) No universal social security→ only the enterprises above certain threshold covered.
(4) Provisions on gig workers and platforms workers are unclear
(5) Size based threshold→burden on small establishments + firms remain small.

#5 What further steps can be taken to improve worker conditions?

(1) Labour Market Information System (LMIS) → identifying skill shortages + training needs + new employment opportunities
(2) Implementing govt schemes → PM shramyogi mandhan yojna, Atal pension scheme, Shram suvidha portal, transparent labour inspection scheme.

(3) Increase in quality apprenticeship (apprentice protsahan yojna) and self-certification of documents.
(4) Skill development under shramev jayate →key element under make in India.
(5) Other supplementary reforms→ raising income and demand, stabalising business climate, infrastructure upgradation, skilling of workforce and consistent export - import policy to increase overall investment and jobs.

LAND REFORMS (Part 1) – concept classes

#1 What are land reforms?

1) Reforming the regulation of land → a) ownership b) rent/lease/sale/operations c) Inheritance
2) Redistribution of land from rich to poor.
3) Improving land tenure + institutional ecosystem.

#2 What are the objectives of land reforms?

1) Ensure redistributive justice → socio economic inequality
2) Develop system of peasant proprietorship → land belongs to tiller
3) India = agrarian economy → huge income inequalities → implement socialistic principles
4) Elimination of exploitation in land relations.
5) Increasing agriculture production + productivity

#3 What was the land tenure system during colonial period?

Permanent settlement system b) Ryotwari system c)Mahalwari system
1) permanent settlement system = fixed land revenue to be paid by zamindar to company
2) ryotwari system = revenue to be paid by farmers/ryots
3) mahalwari system = revenue to be paid by whole village (mahals)

note : British legislated laws → Rent act 1859, Tenancy and rent act 1885.

#4 What issues emerged out of such colonial policies?

1) Ownership rights stayed with the zamindars
2) High peasant indebtness
3) Rise in peasant revolts.
4) Rise in socio-economic inequalities → small farmers + labourers → most vulnerable
5) Rise in food insecurity

#5 What measures were taken in immediate post independence period?

1) bhoodan and gramdan movements → Vinoba Bhave
   bhoodan = zamindars persuaded to gift their land to farmers
   gramdan = collective village living → villagers to vest their all ownership rights to gram sabha
2) Abolition of zamindari system → to remove intermediaries between state and actual cultivators
3) Land consolidation → to bring together small plots of fragmented land.
4) Tenancy reforms → to protect the tenants → regulation of rent + security of tenure + ownership rights
   5) Land ceilings → fixing the maximum amount of land which individual/family can possess.

#6 What were the merits/gains out of such reforms?

1) 2.5 cr farmers bought into direct relationship with the state
2) 61ha of land → distributed to landless farmers.
3) Large scale privately owned forests and wasteland → under state
4) Land consolidation → support to green revolution

#7 What were the limitations associated with such steps?

1) Landlordism abolished but "absentee landlordism" continued
2) Legislations not uniform; eg WB = uniform ceilings but Maharashtra, gujrat= different ceilings for different classes.
3) Poorly designed legislations → ceiling not decided on the basis of soil quality, population density, climate.
4) Poor enforcement mechanism → tenants denied of their rights
5) Large tracts of unused land under government.
6) Unclear titles → black money in real estate + benami property.

note : Planning commission – "land reforms remain an unfinished business"

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LAND REFORMS (Part 2) – Concept classes

#1 What further steps were taken to tackle the issues originated out of poor implementation of institutional reforms?

1) Computerisation of land records (1988) → pilot project in 8 districts → resolve the issues of manual system
2) PESA 1996 → Gram Sabhas given power to regulate their land + resources → implementation of land reforms + land consolidation
3) Forests rights act 2006 → a) "title rights" on land to tribals b) "use rights" for minor forest produce c)"relief and development rights" for rehabilitation in case of eviction.
4) Digital India lands record modernisation programme → integrated land information management computerisation of land records + map digitisation.
5) Land acquisition act 2013 → higher compensation to those deprived of their land by govt (public + private) projects.
6) Model land leasing act 2016 → balance the needs of landlords and lease holder → bring in unproductive land to productive uses → recognising cultivators → provide credit
7) Swamitva yojna → mapping the land parcels in rural areas using drones.
8) Niti Ayog's draft model land titles act 2019 → state guaranteed ownership.
9) ULPIN → unique land parcel identification number → link all property transactions

#2 What are the existing gaps in this context?

1) huge land lying vacant under govt, eg – 2.35 lakh acre surplus land under 58 underperforming CPSUs
2) 2/3rd of all the pending cases in courts → property disputes ; Niti Ayog → 20 years = avg time to settle such cases
3) Recent agricultural census → size of operational landholding decreased since 1971 + fragmentation of land expected to rise.
4) Absence of nationwide template ie standardised national registry of land records.

#3 What steps should be taken

1) Digitisation of land records eg- Bhoomi project (Karnataka)
2) Responsible legislations like Rajasthan's urban land act which makes state as the guarantor of land titles
3) Distributing ceiling surplus lands → land reforms division to fix annual targets
4) Monetisation of govt wastelands
5) Consolidation of landholding → kerala, TN, Gujrat
6) Promoting cooperative farming
7) Leveraging technology → Andhra Pradesh using block chain technology to prevent property frauds.

MSME (Part 1) – Concept Classes

#1 What do you understand by the term MSME?

(1) Micro, Small, and Medium Enterprises → first time defined under MSME development Act 2006.
(2) Redefined by the MSME Development (Amendment) Bill, 2018.
(3) Two categories: (i) Manufacturing; and (ii) Those engaged in providing/rendering of services.

Classification of enterprises into micro, small and medium enterprises (in Rs)

Kind of enterprise	Act of 2006		Bill of 2018
	Manufacturing	Services	All enterprises
	Investment towards plant & machinery	Investment towards equipment	Annual Turnover
Micro	25 lacs	10 lacs	5 Cr
Small	25 lacs to 5 Cr	10 lacs to 2 Cr	5 Cr to 75 Cr
Medium	5 Cr to 10 Cr	2 Cr to 5 Cr	75 Cr to 250 Cr

#2 What was the need of redefining the MSMEs?

(1) Investment criterion led to Pan Peter Syndrome → with increase in size → increase in regulations and rules → discouraged MSMEs to become bigger.
(2) Classification based on Annual turnover → No need for frequent inspections →to check the investment in plant and machinery.
(3) Differentiation between manufacturing and services MSMEs removed → Transparent, non-discriminatory policy formation.

#3 What is the significance of MSMEs for Indian Economy?

(1) More than 6 crore MSMEs→ around 95% of total industrial establishment in India → backbone of Indian economy
(2) Contributes 30% to India's output/GDP **+** 45% to manufacturing output/GDP
(3) Contributes around half of the exports
(4) Employs more than 11 crore workers→ four times more labour intensive than normal industries.
(5) Provides diversity to manufacturing + services ranging from textiles to space equipments to food processing.
(6) Presence in rural areas → reduced regional disparity

#4 How MSMES can help in achieving SDGs?

(1) Poverty alleviation →Local economic development → more jobs being created→ breaking vicious cycle of poverty → SDG 1, 8, 10
(2) Bring diversity of business and risks→ strengthen resilience of the economy→ SDG 9
(3) Utilization of locally endowed natural resources →environmentally conscious→ SDG 12, 13, 14, and 15.

#5 What are the opportunities in India for MSMEs?

(1) Less Capital Intensive → suitable to India (low middle income country)
(2) Extensive Promotion & Support by Government→ single window registration + credit facilities etc
(3) Reservation for Exclusive Purchase by Government → 25% procurement from MSMEs
(4) Export Promotion + branding →increase in accessibility of MSME products
(5) Growth in demand in the domestic market size due to overall economic growth

MSME (Part 2) – Concept Classes

#1 What are the challenges faced by MSMEs?

(1) Policies creating Dwarfs (Firms = smaller + older than 10 years.) e.g. If the firms grow beyond the thresholds that these policies employ→ unable to obtain the said benefit.
(2) Out of formal network → 90% of the MSMEs informal
(3) Lack of investment from private sector → funds shortage → low innovation
(4) Credit non-availability + delay in payments ; even after govt procurement, funds are not released on time.
(5) Technology constraints + obsolete machinery → low production + productivity + quality (poor economies of scale)
(6) obsolete marketing strategy → poor branding + skeptic attitude towards their products
(7) maximum presence of semi skilled + unskilled workforce

#2 What are the steps taken by the government for promotion of MSMEs?

(1) UdyogAadhar Number: unique identifier → one stop solution for MSMEs offered by all Ministries + Departments.
(2) ASPIRE (a Scheme for Promoting Innovation and Rural Entrepreneurs) → setting up network of technology centers and incubation centers.
(3) Credit in 59 minutes scheme → cheap + fast access to credit → working capital and term loan worth Rs. 1 lakh to Rs. 1 crore.
(4) Atma nirbhar bharat abhiyan→Special attention to MSMEs
(5) Udyam registration (based on self certification) → To deal with informal nature → incentives attached to registration e.g. payment within 45 days.
(6) Subordinate debt scheme→ promoter will give credit to the MSME→government will bear the risk of loan to promotor by the bank.
(7) Funds of Fund Scheme →corpus of `10,000 crore → financial relief and funding to MSMEs
(8) CHAMPIONS portal→to help the MSMEs in terms of finance, raw materials, labour, permissions, etc.
(9) Trade Receivable System (TReDS) by RBI → for timely payment to MSMEs.
(10) Zero effect-Zero defect policy → for making MSMEs efficient and environment friendly.

#3 What measures you can suggest for further improvement of MSMEs performance?

(1) Greening of MSMEs → Efficient technology + green sectors like renewable energies
(2) Clusterisation model → eg Kanpur leather industry/Ahmedabad textile industry

(3) Implementing new labour codes → balance full time/part time workforce
(4) Providing cheaper electricity + natural gas to MSME→ Currently, power DISCOMs and city gas distribution companies do not permit MSMEs to procure their own electricity or natural gas → charge them higher rates than their global counterparts.
(5) Promoting sectors with high spill-over effects on other sectors e.g. Tourism → impact on hotel &catering, transport, real estate, entertainment etc. for job creation.
(6) Awareness generation regarding their IPR to register trademarks + patents.

MSP ISSUE – CONCEPT CLASSES

#1 What is MSP and how is it determined?

1. A "minimum price" for crop that the government considers remunerative for farmers and hence deserving of "support" → a safety net → paid by government agencies when they procure crop.
2. Rationale → to save the crops from price fluctuations →due to lack of market integration, monsoon failure, information asymmetry and other elements of market imperfection plaguing Indian agriculture.
3. Currently no legal backing → Centre fixes MSPs for 23 farm commodities on the recommendations of CACP.
4. The government announces the MSP at the start of each cropping season.
5. Before recommending CACP takes into account → a) demand and supply b) cost of production c) price trends in the market (domestic + international) d) inter-crop price parity e) terms of trade between agriculture and non-agriculture f) a minimum of 50 percent as the margin over cost of production g) likely implications of MSP on consumers of that product.

#2 What are the advantages of having MSP?

1. Self-sufficiency with exports of food crops
2. Controls supply of food grains→controlling food inflation.
3. Assured returns to farmers →better income → better purchasing power.
4. Helps Indian government in fulfilling its responsibility of providing affordable food to the BPL population through fair price shops under PDS system.
5. Good solution in times of climate change and erratic weather events

#3 What are the issues related to MSP?

1. Calculation of MSP →According to Swaminathan Committee→three variables that determine production cost – a) A2 b) A2+FL c) C2.
   The ideal formula according to the Committee would be: MSP = C2+ 50% of C2 but MSP now paid → 1.5 (A2 + FL)
   Note: A2 →out-of-pocket expenses borne by farmers, such as term loans for machinery, fertilisers, fuel, irrigation, cost of hired labour and leasing land
   A2+FL → take into account the imputed value of unpaid labour on the part of family members, in addition to the paid-out cost.
   Comprehensive Cost (C2) → it accounts for rent and interest foregone on owned land and machinery, over and above the A2+FL rate.
2. Skewed cropping pattern → in favour of rice and wheat
3. Skewed regional procurement → maximum procurement from few states → most crops and farmers at mercy of market.
4. Excessive burden on natural resources→ Punjab Haryana growing rice and wheat even when natural resources like soil and water are depleting → virtual water export.
5. A central government committee report →only 6% of the country's farmers take advantage of MSP → maximum farmers are from Punjab and Haryana.
6. Wastage of food crops → FCI procures more than its holding capacity.
7. No legal status of MSP → distrust among farmers with respect to the farm laws reforms.
8. Issues at WTO → de minimus clause → 10% on amber box subsidies.

#4 What further steps can be taken to tackle these issues?

1. Awareness generation among farmers to increase the coverage of MSP system.
2. To reform the MSP regime → diversification of crops + de centralization of procurement (Shanta Kumar) + MSP should be announced well in advance of the sowing season so as to enable the farmers to plan their cropping.
3. Giving legal status to MSP regime
4. Better cooperation and coordination with state governments → more decision making power to states → to improve efficiency of the system
5. Using farmer producer organizations and environmental NGOs to help farmers in decision making → better returns for farmers + less burden on natural resources.
6. Timely payment to farmers for their crops →availability of working capital.
7. Reduction of middle men → last mile connectivity from farm to market

NATIONAL MONETISATION PIPELINE

#1 What is national monetisation pipeline?

(1) Process of unlocking the value of investment made in public assets.
(2) Part of 3 pronged strategy a) DFI b) Monetising assets of public sector banks c) Increasing capital expenditure.
(3) Budget 2021 → launched to assess the value of unutilised/underutilised govt assets
(4) National asset monetisation plan → dashboard → tracking the progress + increase visibility to investors.
(5) Niti Ayog to prepare the plan for FY21-24
(6) Target → raise 2.5 lakh crore.

#2 Why is it launched?

(1) To give boost to infrastructure projects → potential brownfield infrastructure assets
(2) Covid pandemic → increased spending + reduced revenue → borrowing increased by 2.3 times
(3) Subdued private sector investments
(4) Recommended by Vijay Kelkar committee on roadmap for fiscal consolidation
(5) International experience → China, USA, France have effectively utilised this

#3 How will it work?

(1) Broader contours available
(2) Transferring of assets to a trust
(3) leasing / renting out of assets
(4) Awarding of assets to private players. Eg → 150 passenger trains.
(5) Leveraging InvITS + PPP models like tol-operate-transfer

#4 What are the core infrastructure assets that will be rolled out?

(1) NHAI operational toll roads
(2) Oil and gas pipelines of GAIL, IOCL, HPCL
(3) AAI airports in tier 2 and 3 cities
(4) Railway infrastructure assets
(5) Sports stadium
(6) Warehousing assets of CPSEs.

#5 What are the expected benefits?

(1) Driving investments in the economy
(2) Higher public sector capital expenditure → multiplier effect → crowd in private investments.
(3) Proceeds of this → can be used in fresh projects
(4) India's vision of $5 trillion economy

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NBFC/SHADOW BANKING – RBI's tighter regulatory framework

#Whatdo you understand by the term NBFC?

1) Non-banking financial companies.

2) Multiple regulators of the NBFCs (RBI, SEBI, IRDA, NHB etc.)→ given a kind of 'umbrella' definition→ is a company registered under the **Companies Act, 1956** engaged in the business of **loans and advances, acquisition of shares/stocks/bonds/debentures/securities** issued by Government or local authority or other marketable securities of a like nature**, leasing, hire-purchase, insurance business, chit business** but **does not include** any institution whose principal business is that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/construction of immovable property. 3) Based on their liability structure →classified into two broad categories→ a) deposit-taking NBFCs (NBFC-D), and b)Non-deposit taking NBFCs (NBFC-ND).

#What do you mean by the term SHADOW BANKING?

1)One definition→financial intermediaries which facilitate credit but not subject to regulatory oversight.

2) Second definition→Institutions serving the unserved areas (not always serviced by commercial banks)

#What role does NBFC play in Indian economy?

1) Complementary to thebanking sector due to their—a) customer-oriented services b)simplified procedures c)attractive rates of return on deposits d)flexibility and timeliness in meeting the credit needs of specified sectors.
2) RBI's Financial Stability Report →NBFCs have continued to perform better than the banks.
3) Increase the financial inclusion→ NBFCs are there where banks are not there
4) Technologically rich→ use of mobile phones + internet
5) Ground level understanding of their customers profile →gives them an edge to customize their products according to client needs→ deepen financial markets.

#What are the challenges arising out of NBFCs for the Indian economy?

1) Not required to maintain CRR and SLR →defaults and bankruptcy→contagion in the market→Break of trust + loss of savings →Liquidity crunch in the economy
2) Ticking financial bomb →Nexus of NBFCs + credit rating agencies + auditors→false information about creditworthiness of the NBFCs → crores of investments at risk →e.g., Infrastructure Leasing & Financial Services (IL&FS)
3) Asset liability mismatch→ not able to meet its credit requirements
4) "Connected lending"→ Financial Scams.

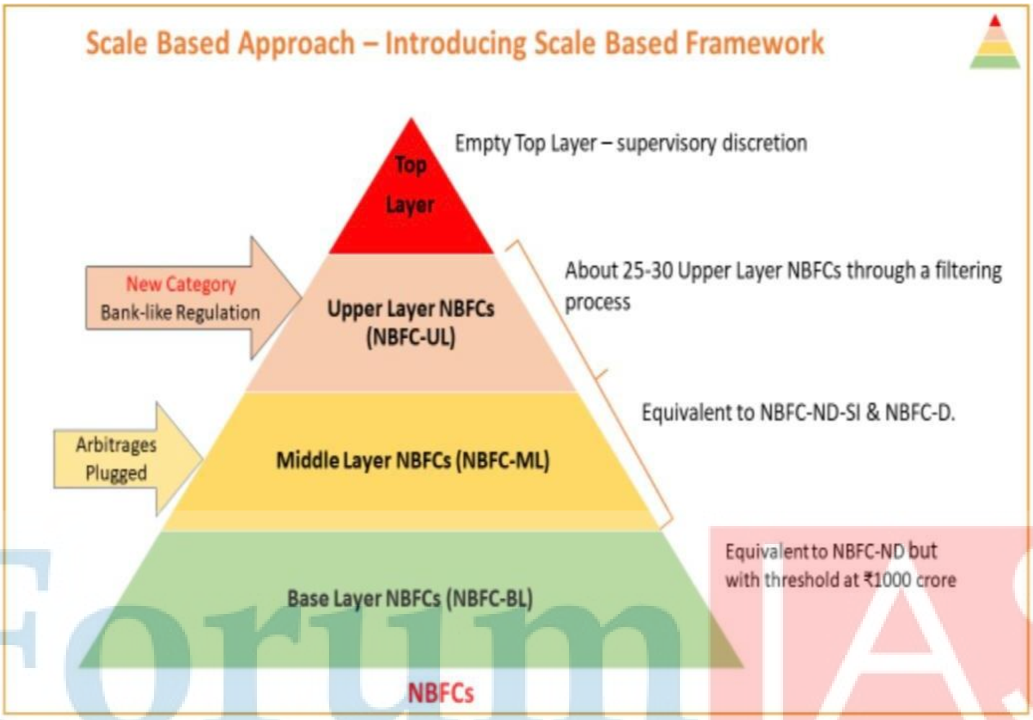
#What are the regulatory measures taken by the RBI to strengthen NBFCs?

1) Special liquidity scheme→SPV to issue securities→bought by RBI→funds given to NBFCs
2) Targeted long term repo operations

3) For certain NBFCs→ maintain 10% of their deposits in liquid assets→to maintain liquidity.
4) Compulsory registration with RBI for NBFCs having net funds > Rs 50 lakhs
5) Periodical returns to the RBI on various matters relating to their operations.

#What is the new regulatory proposal of the RBI for the NBFCs?

1) Creating a four-tier structure + progressive increase in intensity of regulation.



a) Base Layer:Least regulatory intervention→NBFC-ND with threshold at 1000 crores (non-systemically important)
b) Middle Layer:Stricter regulatory regime→ systemically important NBFCs + NBFC-D
c) Upper Layer: regulatory superstructure → Bank like NBFCs having large potential of systemic spill-over of risks →impact financial stability.
d) Top Layer→If certain NBFCs lying in the upper layer are seen to pose extreme risks as per supervisory judgement, they can be put to top layer.

Public Distribution System – Concept Classes

#1 What is Public distribution system?

1. Indian food security system established by GOI (under ministry of consumer affairs), jointly managed by state governments.
2. Central government → procurement, storage, transportation, and bulk allocation of food grains, State governments → for distributing the same to the consumers through the established network of approximately 5 lakh Fair Price Shops.
3. Evolved as a system of management of scarcity through distribution of food grains at affordable prices → major commodities → wheat, rice, sugar, kerosene

#2 How did the PDS system evolved?

1. Started around world war 2 as war time rationing measure.
2. Befor 1960s → dependent upon imported food grains
3. 1960s → Green revolution + FCI established to procure + store food grains
4. 1970s → universal scheme for distribution of subsidised food
5. 1990s → TPDS → beneficiaries = a) households BPL b) households APL
6. 2000 → Antyodya anna yojna (AAY) for poorest of the poor families
7. 2013 → NFSA 2013 → legal right for 67% of the population to have subsidised food grains.

#3 How does PDS system functions?

1. The centre (FCI) procures food grains from farmers at MSP → sells it to states at central issue prices and transports the grains to sate godowns.
2. States transport t grains from godowns → fair price shop (ration shop) → beneficiary buys the food grains. Many states further subsidise the price of food grains before selling it to beneficiaries.

#4 What is the importance of PDS?

1. Ensures Food and Nutritional Security + make food available to the poor at affordable prices.
2. Stablises food prices →maintains the buffer stock of food →flow of food remain active even during the period of less agricultural food production.
3. Redistribution of grains from food surplus regions → deficient regions.
4. MSP → increase in food grain production + assuring income to farmers.
5. Extreme situation like covid + migrant crisis → PDS stands as a guarantee for social security

#5 What are the challenges?

1. Identification of beneficiaries → large inclusion – exclusion errors + Beneficiaries (in many states) can register in their home states only → migrant workers discriminated.
2. Huge burden on exchequer + NFHS 5 → high hunger, stunting and wasting rates prevailing.
3. Huge wastages + leakages + corruption + hoarding and black marketing
4. Open ended procurement → shortages in market → inflation
5. MSP → discourages crop diversification + increases individual and regional inequalities
6. Govt intervention → private players discouraged → lack of innovation in the sector.
7. WTO issues → de minimus clause.

#6 What should be done?

1. Diversification of food basket
2. Leveraging technology → online tracking system, end to end computerisation, digitisation of ration cards.
3. Direct cash transfers → enhance dietary diversity + reduce leakages + reduce transportation cost for govt. (Economic survey 2016-17 highlighted the need for more caution and better infrastructure while replacing subsidised PDS supplies with DBT.)
4. Shanta Kumar recommendations → decentralised procurement, 40% coverage under NFSA 2013, outsourcing storage and enhancing infrastructure.
5. Encouraging social auditing to ensure accountability

Case study → BRAZIL'S bolsa familia programme where govt transfers the cash directly to the family subject to conditions such as school attendance, nutritional monitoring, pre and post natal tests etc → 15 %poverty reduced and helped brazil to attain its MDG.

RAILWAY REFORMS – PRIVATISING RAILWAYS

Why railway reforms are required?

1) Existing issues→a) loss making (13 p/km) b) Cross subsidisation c) High operating ratio (~98%) d) Frequent delays + poor services e) Red tapism f) Overload (In 64 years freight loading -grown by 1344% & passenger kms by 1642%, the Route kms - grown by only 23%) g) Accident potential
2) Huge significance→ economic development, social inclusion, demographic redistribution, industrial linkages, cheaper transport, less CO2 emissions
3) Future potential → Low cost travelling& transportation, high speed, multimodal transportation, international rail corridors → all requires world class railway infrastructure + administration

What are the recent steps in this direction?

1) Subsuming railway budget within general budget → Depoliticization + efficient financial allocation
2) Restructured railway board (1 chairperson + 4 members) + Merged cadres (group A) as Indian Railway Management Services (IRMS)→reduced departmentalisation&inter-departmental rivalries
3) Sreshtha(New R&D organisation) + Sutra (World class data analytics, simulation softwares, network optimisation &decision support systems)
4) Roping in of private players →private operators to run trains on as many as 150 routes on the Indian Railways network→ efficient + faster movement
5) Rashtriya Rail SanrakshaKosh (National Rail Safety Fund) with a corpus of Rs 1 lakh crore.

What are the merits of privatising railways?

1) Better services + maintenance + competition + private players can be held accountable
2) Technology boost + reduction in transit time → demand-supply balance
3) Better capacity utilization →increased freight & passenger transport →more jobs + Cheaper transportation costs than Roads → reduces Logistics to GDP →Increases economy's competitiveness
4) Less political interference → decisions based on merit and not on political voices
5) Monetization of assets →Govt. can spend these on social sector

What are the challenges involved?

1) Potential rise in ticket fairs as prices will be Market driven
2) Social exclusion due to profit orientation→backward areas may go unserved + concessions to senior citizen, women, divyangs might not be there.
3) Fear of formal job losses
4) Lack of modernised signal system → high traffic load→ private trains will be delayed too
5) Dual control → split responsibility can cause poor accountability
6) Private players may increase the existing load without capacity addition→ compromises safety

What further strategy should be followed to reform railways?

1) Bibek Debroy recommendations:a) promoting liberalisation b) separate core& non-core activities
2) Leveraging IRCTC → has experience in running "tejas express" → unity of command under single administration of railways and its undertaking.
3) Subsidies + tax incentives to companies that would provide low-cost services.
4) Expanding rail track networks + modernising signal system
5) Learning from PPP models of Germany – division between operator and infrastructure developer

SINGLE SECURITIES MARKET CODE – CONCEPT CLASSES

 # What is single securities market code?

1) Unified code consolidating 4 existing laws→SEBI Act 1992(powers to regulate capital market), Depositories Act 1996 (regulates all the depositories of the country), Securities Contracts (Regulation) Act 1956 (governs stock exchanges) and Government Securities Act, 2007 (Power to RBI to amend the laws governing the G-sec market)
2) Announced in budget 2021-22

 # Why is government proposing to merge these acts?

1) To increase the operational efficiency of SEBI → reduces the turnaround time for approvals→ ease of doing business improved→increased investments into capital market
2) To have a unified legislation regulating various forms of securities like equity, commodity, currency and interest rate → removes contradictions, overlaps and outdated provisions.
3) To give better legal clarity to investors + intermediaries
4) As a part of BN Sri Krishna committee (FSLRC) recommendation to merge 15 acts into Single code.

 # What are the expected benefits out of this?

1) Simplification + rationalisation of laws →reduced friction between various financial regulators→ better enforcement
2) Cutting down of compliance cost in Financial Markets →More investor friendly
3) Rise in investor confidence → increase in credit ratings→Long run, Easier for Govt. to raise loans
4) Inflow of capital can increase → overcoming the Pandemic shocks

 # What are the recent challenges for India's capital market?

1) Falling GDP due to Covid → hinders the development of capital market
2) Inflation → reduced purchasing power →reduced investments
3) Non uniform tax systems → under growth of businesses
4) Low education and high unemployment

 # What other complimentary reforms have been take to strengthen securities market?

1) Union Budget 2021-22 →permanent institutional framework →purchase investment grade debt securities (low to medium risk securities)→ develop the Bond Market.
2) Development of a world class Fin-Tech hub at the GIFT-IFSC.
3) Warehousing Development and Regulatory Authority will be strengthened to set up a commodity market ecosystem arrangement
4) Investor charter →right of all financial investors across all financial products.

SOLAR SECTOR IN INDIA – Concept classes

#1 What is the potential and current status of solar energy in India?

1. National Institute of Solar Energy assessed→Country's solar potential=748 GW
2. World's 11th largest solar capacity.
3. Solar power development → 5th position globally
4. Solar power capacity → increased by more than 14 times in the less than 7 years from 2.6 GW in March,2014 to 37.46 GW in 31.12.2020.

#2 What are the reasons for high solar energy development potential in India?

1. Locational advantage: Tropical region + nearness to equator → about 5,000 trillionkWH/year+ most parts = 4-7 kWh per sq. m per day.
2. Large tracts of land which is barren, deser and large lakes→ solar power plants can be set up in such areas.
3. Huge population→high demand→ huge scalability in India.
4. Ability of Off-grid decentralized generation→advantageous from a rural electrification + remote areas where grid can't reach eg Andaman nicobar islands.
5. Diversification of energy basket→ stability + security.
6. Government support → National (national solar mission) + International (ISA)

#3 What are the benefits of Solar energy usage?

1. Environmental sustainability→ renewable clean source → reduced dependence over exhaustible polluting resources.
2. Social benefits→reduction in drudgery among rural women and girls engaged in the collection of fuel wood from long distances + cooking in smoky kitchens + minimization of the risks of contracting lung and eye ailments + Solar study lamps (better education opportunities) + improvement in the standard of living.
3. Economic benefits: decreasing per unit cost of electricity + export promotion + Innovation promotion + reduction of imports of petro products + Self-reliance + employment generation at village level.
4. National + international commitments→ 175GW renewable energy target by 2022

#4 What are the challenges before solar sector in India?

1. Lack of reliable nature → battery storage required → lithium batteries not made in a big way in India→lithium mining → environmentally polluting.
2. Grid integration+ poor financial condition of Distribution Companies (DISCOMs).
3. High cost due to imported components (local manufacturing still not picked up)
4. Land Scarcity: Exclusive installation of solar cells → has to compete with other necessities that require land.
5. Manufacturers → focus on export markets to maximize profit→tie-up with foreign players in Europe and United States →reduced supplies for local market.
6. Overlapping jurisdictions: too many agencies like MNRE, IREDA, SNA, electricity board and electricity regulatory commission.
7. Confusion along the GST and the import duty on solar equipment→ yet to be resolved completely.

#5 What are the steps taken by Indian Government for promotion of solar energy in the country?

1. National Solar Mission (**Jawaharlal Nehru National Solar Mission**): under National Action Plan on Climate Change→targets installing 100 GW grid-connected solar power plants by 2022.
2. Schemes→ a) Solar Park Scheme, Canal bank & Canal top Scheme b) PM-KUSUM scheme c) Grid Connected Solar Rooftop Scheme d) Provision of roof top solar and Guidelines for development of smart cities e) Atal Jyoti Yojana f) UMPP solar projects like Kurnool, pavagarh etc.
3. National Institute of Solar Energy→apex institute for research and development
4. Infrastructure status for solar projects + Green energy corridor concept
5. Waiver of Inter State Transmission System (ISTS) charges and losses.

#6 What are the international level initiatives of Indian government with respect to solar energy?

1. International Solar Alliance + one sun one world one grid initiative
2. India's Intended Nationally Determined Contributions (INDCs) target to achieve about 40 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources and to reduce the emission intensity of its GDP by 33 to 35 percent from 2005 level by 2030 → specific reliance on Solar energy.
3. MOUs with different countries for cooperation e.g. France, Saudi Arabia, Uzbekistan, Spain etc.

SOVEREIGN CRYPTO CURRENCIES / DIGITAL CURRENCIES

#What are digital currencies and cryptocurrencies?

1) Digital currency = electronic model of currency notes and coins→stored in digital wallet→can be transformed into cash in hand.
2) Cryptocurrency = encrypted form of digital currency→highly volatile→advanced blockchain technology to maintain smooth transaction flow - Bitcoin, Ethereum, Dogecoin.
3) Sovereign cryptocurrencies = Countries recognising cryptocurrency as legal tender. Eg→ Marshal island's SOV → sovereign digital currency

 # What is their significance and Why the demand of crytocurrency is rising?

1) Ease of transfer → no middlemen/third party required→ decentralised currency.
2) Investment opportunity → huge profits → 2017: few $100→ 2021 $62000
3) Privacy + security → blockchain technology used → cannot be traced.
4) Low crypto currency charges unlike banks which charge several types of fees.
5) Lots of cryptocurrencies present→multiple options→ crypto exchanges can be used to trade them.

 # What are the associated challenges?

1) Security threats →absence of any central agency + anonymous blockchain technology →terror financing + other financial crimes.
2) High volatility in valuation + lack of liquidity
3) Data threat → digital mafias to penetrate the crypto market
4) Not recognised yet in most countries→ unregulated→loss of revenue for the government for transaction in cryptocurrency
5) Highly energy intensive→energy consumption by these = total energy consumption of mid-sized economies like Switzerland, Ireland etc.

 # What is its status in India?

1) Subhash Chandra Garg committee → cryptocurrency cannot be used as legal tender or currency at any place in India.
2) 2018-19 budget speech, Finance Minister→ Cryptocurrencies not a legal tender.
3) 2018: RBI circular→ preventing all banks from dealing in cryptocurrencies→declared unconstitutional by the Supreme Court in May 2020.
4) 2021→Cryptocurrency and Regulation of Official Digital Currency Bill, 2021, to create a national digital currency + ban all private cryptocurrencies.

Note: national digital currency = digital form of a country's fiat currency. Instead of printing paper currency or minting coins, the central bank issues electronic tokens. This token value is backed by the full faith and credit of the government.

 # What are the issues raised by experts in India's current approach?

1) Categorising the cryptocurrencies as public (government-backed) or private (owned by an individual) inaccurate → they are decentralised but not private.

2) Potential loss of transformative technology → global giants like tesla is using it
3) Other countries have started finding some way outs to leverage cryptocurrency's potential→ krona (Sweden), sand dollars (Bahamas), e-RMB (China- DC-EP)
4) Contradictory Policies →Draft National Strategy on Blockchain, 2021 hailed blockchain technology as transparent, secure and efficient.

 # What future strategy should be adopted by India?

1) Regulation and not banning →to balance the interest of consumers + investors
2) Record keeping + inspections + independent audits + investor grievance redressal and dispute resolution
3) Capital gains tax can be levied.
4) Strengthening cyber security framework → skilled workforce + offensive-defensive strategy + capacity building of law enforcement agencies + special cadre for cryptocurrency management

Technology Mission in Agriculture – Concept Classes

#1 What are technology missions?

1. Focussed initiative to drive attention and modern technology development into particular fields
2. Objectives → improve services, dependability and accessibility.
3. They have measurable outcomes + time bound targets.

#2 What technology missions have been started by government to boost agriculture sector?

1. Technology mission on oilseeds, pulses, and maize (TMOPM) → oilseeds production program + national pulses development project + accelerated maize development program + oil palm development program.
2. National livestock mission → to develop indigenous breeds and improve their productivity
3. Technology mission on cotton → to develop new varieties of cotton +increasing the yield via cotton research and technology generation.
4. Jute technology mission → to carry out research and marketing of raw jute.
5. Technology mission on coconut → to disseminate technology in participatory mode
6. Mission for integrated development of horticulture → to integrate all the ongoing schemes in the field of horticulture.
7. National mission on sustainable agriculture → thrust areas = bio technology + risk management +dry land agriculture + access to information
8. National mission on agriculture extention and technology → to connect farms and labs
9. National mission on food processing →to facilitate post-harvest operations + setting up of food processing industries.
10. National saffron mission → scheme under rashtriya krishi vikas yojna

#3 How have these technology missions benefitted the agriculture?

1. Bumper increase in production → backbone of agriculture revolutions like green and white revolution.
2. Increase in technical know – how → Economic survey 2020-21 pointed out the role of national mission on sustainable agriculture in increasing farmer's knowledge.
3. Increased production of horticulture → the total production of horticulture crops surpassed the food grains production.
4. Tapping of foreign market → eg saffron sales in West Asia and Europe
5. National mission on jute and cotton → boost to textile industries
6. National mission on food processing → farm to industry connectivity

#4 What are the challenges that have limited their success?

1. Still the gaps between farm and lab is visible → farmers not aware about modern technology
2. On field demonstrations are lacking → farmers not convinced about new technologies.
3. Most missions focussed on specialisation and lacked integration of SHG/NGO/PRIs
4. Expensive nature → small and marginal farmers lack capital + small land holding →find difficult to use
5. Low R&D budget → lack of innovation.
6. Inadequate infrastructure → eg- lack of cold storage facilities discourage farmers to grow perishable item like fruits and vegetables.

#5 What can be done further in order to integrate technology with agriculture in a better way?

1. Integrating farm and labs → leveraging krishivikasyojna, soil health cards, krishivigyankendras and agriculture universities.
2. Increasing on field demonstration + SHG – NGO - PRI → to create awareness
3. Enhancing credit facilities → bank correspondent model, digital banking, white/green label ATMs
4. Innovative financial models → rental model for machines like tractors to facilitate small and marginal farmers.
5. Strengthening infrastructure → cold storage, warehouses, multi modal logistics.

Case study → kondagao distt (Chhatisgarh) administration started 550 "Kisan clubs" to impart technical training to farmers → find solutions that are in line with local realities. For instance, almost 75 per cent of the 88,000 farmers in the district grow maize and now the foundation stone of a maize processing plant has been laid with the aim to make farmers self-reliant and prosperous.

Use of Technology in Agriculture – Concept Classes

#1 What do you understand by the term 'AGRITECH'?

1. Use of technology in agriculture + aquaculture + horticulture
2. necessary tool to modernise agriculture and increase yields + making it more cost-effective
3. Technologies + application used → drones + satellite photography + sensors + weather forecasts + automated irrigation etc
4. India = one of the largest manufacturers of farm equipment such as tractors, harvesters and tillers→ nearly one-third of the overall tractor production, globally, with the tractor production in the country estimated to increase to 16 million units by 2030.

#2 How technology can boost agricultural sector?

1. Early warning systems using satellite data + genetic engineering→ for climate change adaptation.
2. Greenhouse management software → climate change mitigation
3. Smart water systems →prior information of leaks and equipment malfunction to farmers + allow them to remotely control water pumps.
4. Usage of drones→ faster examination of fields → using these one can see exactly which parts of the field need attention.
5. Fortification of seeds + crops → increasing nutritional value + higher market potential.
6. Mobile + Television → to provide real time information to farmers.
7. Digital banking → to get quick access to funds and credit.
8. Crop sensors → help apply fertilisers in a very effective manner, maximising uptake.
9. Micro-irrigation + rainwater harvesting → for efficient use of water.
10. Employment generation →farm managers, supply-chain specialists and finance experts, digital analysts and software developers + agri start-ups → CropIn, NaPanta, E-kutir

#3 What are the challenges in application of technology in agri sector?

1. Small and fragmented land holding→ineffective utilisation of farm machines like tractors.
2. lack of funds + skills with small/marginal farmers to adopt.
3. Digital divide → lack of internet connectivity
4. Threat of losing jobs due to machines → low rate of adoption of farm mechanization.
5. Behavioural challenge → less receptive attitude →trust upon traditional way of farming among the farmers
6. Lack of investment from the private sector → lack of R&D + lack of tailor-made technology for different areas

#4 What are the steps taken by the government to promote usage of technology in agriculture sector?

1. National Mission on Agricultural Extension & Technology (NMAET)→ physical outreach + interactive methods for information sharing
2. a) E-NAM (for marketing + real time information about prices) b) Soil health cards (to monitor soil conditions) c) KUSUM yojana (solar pump-based irrigation)
3. Establishment of KVKs (Krishi Vigyan Kendras)
4. mKisan portal → web-based mobile technological advisory to farmers from Research Institutes and Agricultural Universities.

5. Satellite data and GIS Technology for Crop Production Estimation, Horticultural Inventory, Site Suitability Analysis for crop expansion and Drought Assessment.
6. India's National Strategy on AI recognises agriculture as a priority sector for implementation of AI-driven solutions
7. Budget 2021 → increased credit facilities for agritech startups

VOCAL FOR LOCAL – Concept Classes

#1 What do you understand by "Vocal for Local"?

(1) To popularise indigenous products (local products) → make them global (increase accessibility and branding) → increase exports + reduce imports.
(2) To promote local manufacturing + local market + local supply chains.
(3) To make Indian products globally competitive.
(4) To make India self-reliant "AtmaNirbhar"
(5) Not against globalisation but new form of globalisation→Conversion from profit-driven to people-centric.
(6) shifting the focus from 'Make in India' to 'Make for World.'

#2 What is the current status of Localization in the country?

(1) Over 30 years ago→no much Indian brands were there + lack of trust on local brands
(2) Now→more than 60%of the brands in the food industry are local brands
(3) Local brands comprise 57% of shopper's decision
(4) Indian brands not much popular → personal hygiene, cosmetic, and consumer durable segments.

#3 What does India need to do to achieve the goals of "vocal for local"?

(1) product quality improvement policies → zero effect zero defect
(2) "Brand India" promotion in foreign market by India brand equity foundation (IBEF)
(3) Focussing on emerging technologies→ robotics, 3D printing, artificial intelligence etc
(4) Link itself to global value chain
(5) Developing manufacturing clusters + start-ups + efficient forward-backward linkages
(6) Consumers Awareness about the local brands
(7) Government support to MSMEs + handholding

#4 How India is going to be benefitted by this call?

(1) Reduced current account deficit
(2) Rise in India's presence in global market → strategic advantage vis-a-vis China
(3) High potential to boost employment
(4) Increased local consumption → increase in economic activities → increased GDP

#5 What are the risks involved in such scenario?

(1) Might be seen as "protectionist policy" by other countries
(2) manufacturing is still weak → dependence for raw materials like lithium on foreign countries inevitable
(3) reduction in competition from foreign products → quality deterioration
(4) Global economy → works on GIVE & TAKE → India's stance of only taking from global economy → not sustainable.
(5) Initial Demand-Supply mismatch due to reduced imports of certain necessary items.

#6 Will it act as a counter to globalization?

(1) PM has made it clear → vocal for local = self reliance and not self-centeredness.
(2) Progress of India = progress of whole world
(3) Rise in global competition → innovation → strengthening of globalisation

White Revolution 2.0 – Concept Classes

#1 What was WHITE REVOLUTION?

1. World's largest agricultural dairy development programme → Operation flood
2. 'Billion liter idea,' as conceived by Dr. Verghese Kurien
3. It made India the world's largest milk producer from a milk-deficient nation and increased milk output four-fold, in 30 years.

#2 What is the current status of dairy sector in India?

1. India's milk production→CAGR of 4.5% (USA→1.8% and E.U→ 1.3%)
2. Dairy →largest single agricultural commodity with ~4 per cent share in economy
3. India →largest producer of milk globally with around 188 MT production in 2019-20.
4. Approximately 70 million farmers are directly involved in dairying.
5. Accounts for approximately one-third of rural household income in India.

#3 What is WHITE REVOLUTION 2.0?

1. New operation flood
2. Focusing on → a) Technological aspect e.g. using Artificial Intelligence, geotagging; b) generating quality cattlemanure; c) female labour force participation; d) organic dairy products; e) indigenous breeds and scientific advancement in breeding; f) R&D; g) involvement of private players.

#4 What is the need to move towards WHITE REVOLUTION 2.0?

1. For bringing focus on the female labour force →out of 7.7 million, 69% engaged exclusively in raising of cattle and buffalo are female workers →mostly Unpaid female family labourers
2. Increasing demand of quality products → Rising income levels → rising knowledge about adulteration of dairy products
3. Low percentage of organic products →organic dairy industry accounts for less than 1 per cent of the total dairy market in India.
4. Time to improve the indigenous breeds → Milk type → A1 and A2 → A2 is better and the milk of the Indian native cattle belongs to this class.
5. Low milk yield—1.33 tonne per head in 2018—compared to much higher yields in major milk producing countries; for instance, 10.47 tonnes per head in USA, and 7.06 tonnes per head in the EU.
6. Vegan movement →several plant-based milk substitutes →posing a new challenge and competition to existing dairy products.

#5 What are the steps taken by the government to enhance the dairy sector in India?

1. Nationwide Artificial Insemination Programme (NAIP) → to inseminate over 1 crore bovines in 6 months + ear-tag them with 'Pashu Aadhaar' (unique identification with all details such as the breed, age, gender and owner details) + Comprehensive programme on AI → covering villages of 116 Aspirational districts through semen of high yielding indigenous breeds (HYIB)
2. Pashu Sanjivni→An Animal Wellness Programme encompassing provision of Animal Health Cards ('Nakul Swasthya Patra')
3. Rashtriya Gokul Mission →to conserve and develop indigenous breeds in a scientific manner under National Programme for Bovine Breeding and Dairy Development.

4. Animal Husbandry infrastructure development fund → to enable the small and poor farmers and entrepreneurs, especially women, self-help groups, weaker sections to avail latest infrastructure facilities and to get better remuneration for their produce.
5. Dairy Entrepreneurship Development Scheme→central government subsidy program for setting up dairy farms + to attract Private sector
6. Galvanizing Organic Bio-Agro Resources Dhan (GOBAR-DHAN) → to manage and convert cattle dung and solid waste in farms to compost, bio-gas and bio-CNG.
7. Providing processing infrastructure → to fulfil increasing demand for value added products like Cheese and yogurt

#6 What further measures can be taken?

1. Strict enforcement of FSSAI act to achieve Safe Milk and Milk exports targets.
2. Explore frontiers of technology like development of genomic chip through institutions like NDDB and National Bovine Genomic Centre.
3. Organising farmer's orientation programmes →women farmers are trained in scientific best practices on animal health, fodder quality, clean milk production, and accounts management.
4. Improving milk procurement and processing with PPP partnership and competitive intelligence.