GOVERNANCE

Cabinet approves Industrial Corridor nodes at Krishnapatnam and Tumakuru under CBIC

Cabinet has approved Industrial Corridor nodes at Krishnapatnam and Tumakuru under Chennai Bengaluru Industrial Corridor (CBIC).

Multi Modal Logistics Hub & Multi Modal Transport Hub (MMTH) at Greater Noida was also approved.

- The approved proposals have a total estimated cost of Rs. 7,725 crore and an estimated employment generation of more than 2.8 lakh persons.
- These will facilitate manufacturing investments into the country by providing quality, reliable, sustainable and resilient infrastructure to industries
- These will also position India as a strong player in Global Value Chains with developed land parcels in cities for immediate allotment for attracting investments
- Approved proposals shall provide an impetus to "Aatmanirbhar Bharat" & "Make in India".

Multi Modal Logistics Hub

- Logistics Hub project will be developed as a world-class facility that will provide efficient storage of goods to/from the Dedicated Freight Corridors (DFC).
- It will offer a one-stop destination to freight companies and customers.
- The facility will provide standard container handling activities.
- It will also provide various value-added services to reduce logistics cost with improved efficiency of operations.

Multi Modal Transport Hub (MMTH) project

- It will be located near the already existing Indian Railways station of Boraki.
- It will act as a transport hub with provisioning of Rail, Road and MRTS accessibility for the passengers in a seamless manner.
- MMTH will have space for Inter State Bus Terminal (ISBT), Local Bus Terminal (LBT), Metro, commercial, retail & hotel space and green open spaces.
- The project will provide world-class passenger movement facilities for the growing population of the catchment zone catering to upcoming developments in U.P. sub-region of the NCR and thus, decongest Delhi.
- It will increase employment opportunities as well.

Industrial Corridor nodes at Krishnapatnam and Tumakuru under CBIC

- It is envisioned on the backbone of major transportation corridors like Eastern & Western Dedicated Freight Corridors, Expressways and National Highways, proximity to ports, airports, etc.,
- Objective: Creation of greenfield industrial cities with sustainable, 'plug n play', ICT enabled utilities to facilitate the manufacturing investments by providing quality, reliable, sustainable and resilient infrastructure to industries.
- The developed land parcels in these cities will be ready for immediate allotment for attracting investments.
- It strives to attain the objective of creation of an "Atmanirbhar Bharat"
- These greenfield industrial cities will be self-sustained with world-class infrastructure, road and rail connectivity for freight movement to and from ports and logistic hubs along with reliable power and quality social Infrastructure.

INDIAN ECONOMY

India commences exports of Moringa powder

India commences exports of Moringa powder, keeping in mind the rising global demand, because of its nutritional properties.

Key Points

- In a bid to promote Moringa (botanical name Moringa oleifera) products exports from India, APEDA has been supporting private entities in creating necessary infrastructure.
- With more Moringa processing units being created through support of APEDA, the exports would be increasing in the next few years which would bring benefits to the farmers.

Important value additions

Moringa

- Moringa has been used for centuries due to its medicinal properties and health benefits in various forms.

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- Globally, the demand for Moringa products, such as Moringa Leaf Powder and Moringa Oil, has been witnessing healthy growth.
- Moreover, international organizations and institutions are exploring the best ways on how to use Moringa as a nutritional supplement and in food fortification.
- There are several species of Moringa across the world.
- Its usage has been well received among the global consumers for its nutritional, medicinal, culinary uses.

Agricultural and Processed Food Products Export Development Authority

- It is an apex body under the Ministry of Commerce and Industry, Government of India, responsible for the export promotion of agricultural products.
- APEDA was established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act passed by the Parliament in December, 1985.

Some of the functions of APEDA are as following:

- Promotion of exports of agricultural and processed food products. Promotion of export oriented production and development of the Scheduled products.
- To make Improvement in numerous areas such as packaging, marketing for the Scheduled products outside India.
- Setting standards and specifications for the scheduled products for the purpose of exports.
- Financial assistance, reliefs and subsidy to the relating industries.
- To provide training in the related areas

SCIENCE & TECHNOLOGY

Indian SARS-CoV-2 Genomic Consortia (INSACOG) launched

Indian SARS-CoV-2 Genomic Consortia (INSACOG) was recently launched.
Coordinated by: Department of Biotechnology (DBT) along with MoH&FW, ICMR, and CSIR

Key Point

- The consortium will ascertain the status of new variant of SARS-CoV-2 in the country.
- INSACOG will have a high level Inter-Ministerial Steering Committee.
- It will have a Scientific Advisory Group for scientific and technical guidance.

Aim: To monitor the genomic variations in the SARS-CoV-2 on a regular basis through a multi-laboratory network.

- This vital research consortium will also assist in developing potential vaccines in the future.
- The consortium will also establish a sentinel surveillance for early detection of genomic variants with public health implication, and determine the genomic variants in the unusual events/trends (super-spreader events, high mortality/morbidity trend areas etc.).

Do you know?

- A new variant, which was found in the UK, especially in the London region, is defined by multiple mutations in the Spike region, as well as mutations in other genomic regions.
- As per DBT, these mutations are rapidly increasing the number of variants of the virus.
- This variant is significantly more transmissible than previously circulating variants, with an estimated potential to increase the reproductive number with an estimated increased transmissibility of up to 70%.

BIODIVERSITY & ENVIRONMENT

Cabinet approves modified scheme to enhance ethanol distillation capacity

There has been surplus production of sugar in the country since sugar season 2010-11.
Sugar production is likely to remain surplus in India in coming years due to introduction of improved varieties of sugarcane.

- To deal with surplus stocks of sugar, sugar mills have been exporting sugar, for which Government has been extending financial assistance.
- India being a developing country can export sugar by extending financial assistance only up to year 2023 as per WTO arrangements.
- So, diversion of excess sugarcane & sugar to ethanol is a correct way forward to deal with surplus stocks.

Key Points

- Thus, recently Cabinet has approved modified scheme to enhance ethanol distillation capacity.
- Diversion of excess sugar would help in stabilizing the domestic ex-mill sugar prices.

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- It will also help sugar mills to get relieved from storage problems.
- It will improve their cash flows and facilitate them in clearance of cane price dues of farmers.
- Government has fixed target of 10% blending of fuel grade ethanol with petrol by 2022, 15% blending by 2026 & 20% blending by 2030.
- With a view to support sugar sector and in the interest of sugarcane farmers, the Government has also allowed production of ethanol from B-Heavy Molasses, sugarcane juice, sugar syrup and sugar.
- To increase production of fuel grade ethanol, Govt. is also encouraging distilleries to produce ethanol from maize; & rice available with FCI.
- Government has fixed remunerative price of ethanol from maize & rice.
- Government is also planning to prepone achievement of 20% blending target by year 2025 and onwards.
- With increase in blending levels, dependence on imported fossil fuel will decrease and will also reduce the air pollution.

Also, the Government has taken following decisions:

- To bring a modified scheme for extending interest subvention to augment ethanol production capacity.
- Government would bear interest subvention for five years including one year moratorium against the loan availed by project proponents from banks at 6% per annum or 50% of the rate of interest charged by banks whichever is lower.
- Interest subvention would be available to only those distilleries which will supply at least 75% of ethanol produced to Operations Management & Control System (OMCs) for blending with petrol.

Do you know?

- Proposed intervention would enhance production of 1G ethanol from various feed stocks thereby, facilitate in achieving blending targets of ethanol with petrol.
- It would promote ethanol as a fuel which is indigenous, non-polluting and virtually inexhaustible.
- It would improve the environment and the ecosystem and result in savings on Oil Import Bill.
- It will also ensure timely payment of dues to farmers.

IMPORTANT FACTS FOR PRELIM

BBX11 Gene: Greening of Plants

Recently, the Indian Institute of Science Education and Research (IISER) has recognized the BBX11 gene that facilitates the greening of crops.

Key Points

About BBX11 Gene:

- The researchers discovered a mechanism where two proteins oppositely regulate the BBX11 gene to maintain optimum ranges of BBX11.
- BBX11 plays a vital role in regulation of the amount of protochlorophyllide synthesized by the plant.
- Protochlorophyllide is an intermediate in the synthesis of chlorophyll.
- If it is less, plants are unable to efficiently green in order to harvest sunlight and if the amount of protochlorophyllide is more, then photobleaching occurs.
- Photobleaching is loss of colour by a pigment.
- The quantity of protochlorophyllide synthesised needs to be proportional to the variety of enzymes available to transform them to chlorophyll.
- It is very important to regulate the amount of protochlorophyllide synthesized by the plant.

Synthesis of Chlorophyll:

- Chlorophyll is the green pigment in plants, algae, and cyanobacteria that absorbs sunlight and uses its energy to synthesise carbohydrates from Carbon-di-Oxide (CO_2) and water.
- The synthesis of chlorophyll in plants is a lengthy, multi-step process.
- When a seedling emerges from under the soil it must quickly synthesise chlorophyll to start supporting its own growth.
- In order to facilitate quick synthesis of chlorophyll, plants make a precursor of chlorophyll called ‘protochlorophyllide’ in the dark, which glows red in blue light.

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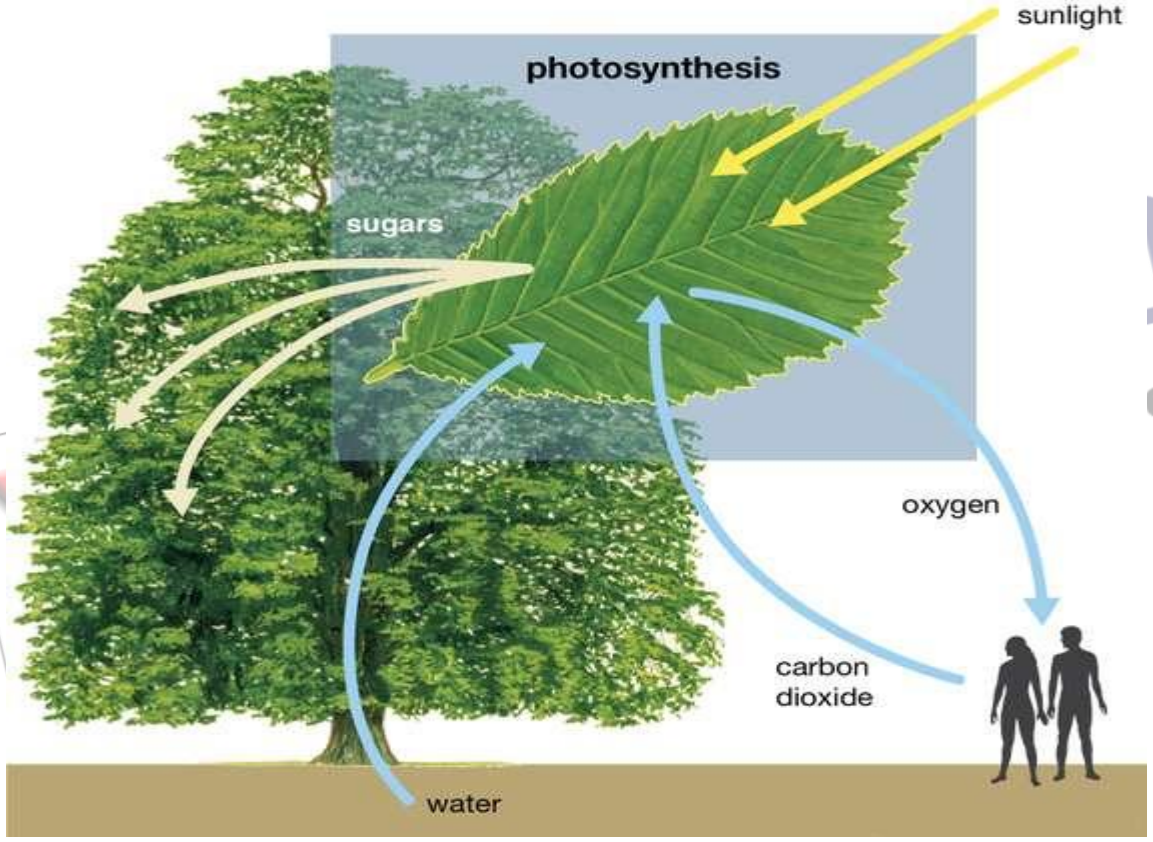
- As soon as the plant comes out into the light from under the soil, light-dependent enzymes convert protochlorophyllide to chlorophyll.

Implications:

- This discovery has many implications within the agriculture sector in tropical nations like India and can assist present results in optimising plant progress in frequently changing weather conditions.
- Due to the quickly altering weather conditions, farmers in a number of states in India, particularly in Maharashtra, are struggling with large losses in crop yields.
- This often leads to severe distress among the farming community as indicated by the high number of farmer suicides in Maharashtra for the past several years.
- Major Reasons for Crop Failure: Severe drought, high temperature and high light.
- Young seedlings emerging out of the soil are extremely sensitive to high irradiance of light. This study can provide leads to optimise plant growth under these stressful conditions.

Photosynthesis



Photosynthesis is the process by which green plants and certain other organisms transform light energy into chemical energy.

During photosynthesis in green plants, light energy is captured and used to convert water, carbon dioxide, and minerals into oxygen and energy-rich organic compounds.

Factors Affecting Photosynthesis: Photosynthesis is under the influence of several factors, both internal (plant) and external.

Internal: Number, size, age and orientation of leaves, mesophyll cells and chloroplasts, internal CO_2 concentration and the amount of chlorophyll.

External: Availability of sunlight, temperature, CO_2 concentration and water.

For example, despite the presence of a green leaf and optimal light and CO_2 conditions, the plant may not photosynthesise if the temperature is very low.

Importance:

- It would be impossible to overestimate the importance of photosynthesis in the maintenance of life on Earth.
- If photosynthesis ceased, there would soon be little food or other organic matter on Earth.

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- Most organisms would disappear, and in time Earth's atmosphere would become nearly devoid of gaseous oxygen.
- Energy produced by photosynthesis carried out by plants millions of years ago is responsible for the fossil fuels (i.e., coal, oil, and gas) that power industrial society.

DAILY ANSWER WRITING PRACTICE

Qns In order to make a truly Atma Nirbhar Bharat, the economic stimulus needs to complemented by bold reforms. Discuss. (250 words)

Ans:

Start your answer by giving the context of Atma-Nirbhar Bharat Abhiyan, recently announced by the government. Briefly, state how through this policy government intends to make India self-reliant.

- Mention the possible impact of the economic stimulus package. Along with it, briefly discuss the associated challenges.
- Discuss the various reforms that should complement this stimulus package.
- Conclude suitably.

Introduction

- The covid-19 pandemic has impacted the lives and livelihoods of the people. Thus, in order to revive the economic activity, the Government of India has announced an economic stimulus package of Rs 20 lakh crore.
- However, without bold reforms, especially in areas of 4L's: Land, Labour, Law and Liquidity, this economic package may not be able to puIn order to make a truly Atma Nirbhar Bharat, the economic stimulus needs to complemented by bold reforms. Discuss. (250 words)t India's growth back on track.

Intended Goal and Associated Challenges

- The Rs 3 lakh crore collateral-free loan facility for MSMEs under the package will help this finance-starved sector and thereby provide a kickstart to the dismal state of the economy.
- Amid migrant workers crisis, lack of demand, this credit facility is unlikely to achieve its intended goal.
- A slew of measures related to agriculture marketing like amending Essential commodities Act, APMC Act, promoting contract farming, have been announced.
- Since Agriculture is a state subject, cooperation amongst states and union is critical to implement these reforms.
- Apart from it, without augmenting the agriculture supply chain, these reforms may not bring the desired result.
- The government also intends to boost domestic manufacturing, by further liberalising FDI policy in the defence and aviation sector.
- The issues of land acquisition, labour laws and lack of credit due to the incomplete transmission of monetary policy, have acted as a roadblock in the path of India becoming a manufacturing hub.

Way Forward

Immediate measures should be taken to revive the aggregate demand in the Indian economy. In this pursuit, the policy of emergency basic income for a short time may be a good option.

In order to have success in revamping agriculture and doubling farmers' income, there is a need for cooperative federalism and augmenting agricultural infrastructure.

There is a need for holistic reforms like addressing skill deficit, establishing a land bank, introducing innovative financing tools like InVITS, bringing labour reforms and improving ease of doing business.

DAILY QUIZ

1. Consider the following statements:
   1. The Ministry of Environment Forest and Climate Change along with the Convention on Biological Diversity (CBD) has come up with the 'Firefly bird diverters' initiative.
   2. The firefly bird diverters' initiative is launched for the Great Indian Bustards (GIB) to prevent them from electrocution.
   3. The GIB is listed as Endangered in the IUCN Red List.

Which of the given statements is/are correct?

a) 1 and 2 only
b) 2 only
c) 2 and 3 only

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d) 1, 2 and 3

2. Which of the following statements is/are correct?
   1. The Chief Information Commissioner is not eligible for reappointment.
   2. The Central Information Commission has the powers of a civil court.

Select the correct answer using the code given below:
   a) 1 only
   b) 2 only
   c) Both 1 and 2
   d) Neither 1 nor 2

3. With reference to the Registrar General of India, consider the following statements:
   1. The Registrar General is an autonomous body responsible for conducting census.
   2. It arranges, conducts and analyses the results of both Census of India and Linguistic Survey of India.

Which of the statements given above is/are correct?
   a) 1 only
   b) 2 only
   c) Both 1 and 2
   d) Neither 1 nor 2

4. With reference to the 'Catch the Rain' Awareness Generation Campaign, consider the following statements:
   1. It is launched by the Ministry of Jal Shakti in collaboration with the Ministry of Youth Affairs and Sports.
   2. Repairing of the traditional Rain Water Harvesting Structures (RWHS) is one of the components of this campaign.

Which of the statements given above is/are correct?
   a) 1 only
   b) 2 only
   c) Both 1 and 2
   d) Neither 1 nor 2

5. Consider the following statements:
   1. It was established in 1899.
   2. It is headquartered in The Hague, Netherlands.
   3. It deals with dispute resolution in the International arena.

The above statements most appropriately explains which of the following International bodies?
   a) Permanent Court of Arbitration
   b) International Court of Justice
   c) International Criminal Court
   d) European Court of Justice

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