

GEOGRAPHY**Milky Way's Violent Birth Decoded**

- Based on the Gaia space observatory data, Scientist has observed that the Milky Way, home to our Sun and billions of other stars, merged with another smaller galaxy in a cosmic collision roughly 10 billion years ago.
- According to scientists, the union of the Milky Way and the so-called dwarf galaxy Gaia-Enceladus increased our galaxy's mass by about a quarter and triggered a period of accelerated star formation lasting about 2 to 4 billion years.
- Galaxies of all types, including the Milky Way, began to form relatively soon after the Big Bang explosion that marked the beginning of the universe some 13.8 billion years ago, but were generally smaller than those seen today and were forming stars at a rapid rate. Subsequent galactic mergers were instrumental in configuring galaxies existing now.
- Certain stars with higher content of elements other than hydrogen or helium arose in the Milky Way and others with lower such content originated in Gaia-Enceladus, owing to its smaller mass.

Gaia Space Observatory

- Gaia is a mission to chart a three-dimensional map of our Galaxy, the Milky Way, in the process revealing the composition, formation and evolution of the Galaxy.
- Gaia will provide unprecedented positional and radial velocity measurements with the accuracy needed to produce a census of about one billion stars in our Galaxy.

GOVERNANCE- WELFARE SCHEMES, E-GOVERNANCE, SERVICES ETC.**Prandhan Mantri Laghu Vyapari Maan-dhan Yojana (PMLVMDY)**

The centre's pension scheme for small traders (PMLVMDY) has been notified and being introduced on trial basis from this week. The scheme assures a minimum monthly pension of Rs. 3,000/- month after attaining the age of 60 years

Who can enrol for this scheme?

- All small shopkeepers and self-employed persons as well as the retail traders with GST turnover below Rs. 1.5 crore and age between 18-40 years

Potential of the Scheme?

- The scheme would benefit more than 5 crore small shopkeepers and traders.
- Simplified process of enrolment— based on self-declaration as no documents are required except Aadhaar and bank account. Interested persons can enrol themselves through more than 3.25 lakh Common Service Centres spread across the country.
- Government of India will make matching contribution in the subscribers' account
- LIC has been chosen as pension fund for this scheme.

INTERNATIONAL AFFAIRS- BILATERAL, GROUPINGS, ORGANISATIONS**EB-5 Visa**

The U.S. is all set to increase the investment amount under EB-5 Visa. The minimum amount required to be invested in the Targeted Employment Areas (TEAs) in the U.S. will now go up to \$9,00,000 (Rs. 6.2 crore), an 80% hike from the existing \$5,00,000 (Rs. 3.5 crore).

- United States Citizenship and Immigration Services (USCIS) administers the EB-5 program, created by Congress in 1990 to stimulate the U.S. economy through job creation and capital investment by foreign investors.
- The new EB-5 fee structure, the first such move since the inception of the programme in 1990, will come into effect from November 21, 2019.
- Several high networth professionals, students, entrepreneurs and families in India have been exploring EB-5 in the last three decades as it is the easiest channel to get a green card and permanent residency in the U.S.

Implication for India

- With stricter norms on H1-B visa and now the hike in investment amount, immigration options have really reduced for Indian applicants.
- However, considering most Indians opt for the EB-5 visa with an eye on better educational and career prospects for their children, the hike is unlikely to cause Indians to explore alternative options.
- Rise of minimum investment amount in EB5 coupled with retrogression caused by over subscription of employment-based green cards such as EB2, EB3 and EB5 would dampen the spirit of not only Indians living in India but also Indians living in the United States on H1B visa.
- EB-5 will still remain an option for the ultra HNIs (high networth individuals) because it remains the fastest way of getting a green card.

INDIAN ECONOMYGlobal Innovation Index-2019

The Government of India, has launched the Global Innovation Index (GII) in New Delhi.

This is the first time that the GII is being launched in an emerging economy. The Department for Promotion of Industry and Internal Trade (DPIIT) of Ministry of Commerce and Industry, Government of India, World Intellectual Property Organization (WIPO) and Confederation of Indian Industry (CII) are co hosting the event.

India's Performance

- India's ranking in the Global Innovation Index is 52 which shows an improvement of 5 points from the last years ranking (57).
- India's rankings has been consistently increasing over the last few years and is among the top in the world in innovation drivers such as Information and Communication Technology (ICT), services exports, graduates in science and engineering, the quality of universities, gross capital formation (a measure of economy-wide investments) and creative goods exports.
- India stands out in the world's top science and technology clusters, with Bengaluru, Mumbai, and New Delhi featuring among the top 100 global clusters.
- India continues to be the most innovative economy in central and southern Asia (a distinction held since 2011).

Global Performance

- Switzerland tops the GII index followed by Sweden, United States of America, Netherlands, United Kingdom, Finland, Denmark, Singapore, Germany and Israel.

Global Innovation Index

- The theme of GII- 2019 (12th edition) is "Creating Healthy Lives - The Future of Medical Innovation" which aims to explore the role of medical innovation as it shapes the future of healthcare.
- It is published annually by Cornell University, INSEAD and the UN World Intellectual Property Organization (WIPO).
- The GII relies on two sub-indices :
 - Innovation Input Sub-Index.
 - Innovation Output Sub-Index.
- These sub indices are built around several key pillars namely , Input pillar and Output pillar : Input pillars capture elements of the national economy that enable innovative activities
 - Institutions
 - Human capital and research
 - Infrastructure
 - Market sophistication
 - Business sophistication.

Output pillars capture actual evidence of innovation outputs:

- Knowledge and technology outputs
- Creative outputs.

ISSUES RELATED TO INTERNAL SECURITY AND DISASTER MANAGEMENT**Steps taken to combat Terror Financing and circulation of Fake Indian Currency in the country**

Minister of State for Home Affairs has informed Lok sabha about the steps taken by the government to combat terror financing and circulation of fake Indian Currency in the country.

Steps:

- The minister has said that the government has strengthened the provisions in the Unlawful Activities (Prevention) Act,1967 by criminalizing the production or smuggling or circulation of high quality counterfeit Indian currency.
- Further,a terror funding and Fake Currency(TFFC) cell has been constituted in National Investigation Agency (NIA) to conduct focused investigation of terror funding and fake currency cases.
- The government has also created FICN Coordination Group (FCORD) to share intelligence information among the security agencies of the states/centre to counter the problem of circulation of fake currency notes.
- A Memorandum of Understanding (MoU) has been signed between India and Bangladesh to prevent and counter smuggling and circulation of fake currency notes.
- Lastly,security at the international borders has been strengthened by using (a)new surveillance technology (b)deploying additional manpower for round the clock surveillance (c)establishing observation posts along the international border (d)erection of border fencing and (e)intensive patrolling.

ENVIRONMENT- CONSERVATION, BIO-DIVERSITY AND ISSUES**Gujarat tops in solar rooftop installations**

According to the government data,Gujarat has emerged as the state with the most rooftop solar panels installed.

Gujarat has installed rooftop solar power capacity of 261 MW against 1,700 MW for all of India.Gujarat is followed by Maharashtra and Tamil Nadu in terms of installed rooftop capacity.

The government has also provided financial assistance and incentives under the Grid Connected Rooftop Solar programme.

Grid Connected Rooftop Solar programme.

- The Grid Connected Rooftop Solar Programme aims to achieve a cumulative capacity of 40,000 MW from rooftop solar projects by 2022. The program encourages installation of rooftop solar photovoltaic power generation plant for self-consumption as well as supply/sale of electricity to the grid.
- The programme will have substantial environmental impact in terms of savings of CO2 emission.
- The programme will also have direct employment potential.Besides increasing self-employment it is likely to generate employment opportunity equivalent to 9.39 lakh job years for skilled and unskilled workers.
- The Indian government has set a growth target of installation of 175 GW aggregate capacity of renewable energy by 2022.Out of total 175 GW, target of 100 GW has been set for Solar Power.

Dracaena cambodiana : India's first dragon blood-oozing tree

Assam has added to India's botanical wealth a plant that yields dragon's blood — a bright red resin used since ancient times as medicine, body oil, varnish, incense and dye.

Dracaena cambodiana

- A group of researchers has discovered Dracaena cambodiana, a dragon tree species in the Dongka Sarpo area of West Karbi Anglong, Assam.
- This is for the first time that a dragon tree species has been reported from India.

- In India, the Dracaena genus belonging to the family Asparagaceae is represented by nine species and two varieties in the Himalayan region, the northeast and Andaman and Nicobar Islands.
- But Dracaena cambodiana is the only true dragon tree species.
- The Dracaena seeds are usually dispersed by birds. But due to the large fruit size, only a few species of birds are able to swallow the fruits, thus limiting the scope of its natural conservation.
- Recent overexploitation to meet the increasing demand for dragon's blood has resulted in rapid depletion of the plant.

Uses

- Dracaena cambodiana is an important medicinal plant as well as an ornamental tree.
- It is a major source of dragon's blood, a precious traditional medicine in China.
- Several antifungal and antibacterial compounds, antioxidants, flavonoids, etc., have been extracted from various parts of the plant.

ODISHA DEVELOPMENT**Odisha farmers spend Rs 2,403 to produce a quintal of paddy, get only Rs 1,815**

According to the Agricultural Minister of Odisha, compared to an estimated cost of production of paddy at Rs 2,403 a quintal in Odisha, farmers in the state lose Rs 588 per quintal when they sell their produce to the government at the Minimum Support Price (MSP) of Rs. 1815 per quintal.

Highlights:

- The CACP's projected cost of production of paddy for Kharif crops during the marketing season, 2018-19 in Odisha was Rs 1,713 per quintal,
- The cost of production per quintal of paddy in Maharashtra is, however, highest at Rs 2,418,
- The state had proposed to fix the MSP of paddy at Rs 2,930 per quintal after the Assembly unanimously adopted a resolution on the issue, but the Centre sanctioned only Rs 1815 per quintal.,
- The minister said the state government has been taking several measures to reduce the cost of production of paddy by supplying better quality seeds at subsidised price, soil health test, technical assistance to grow more grain in limited area and others.

CACP: Commission for Agricultural Costs and Prices (CACP) under the Union Ministry of Agriculture and Farmers Welfare, fixes the rate on per quintal production of paddy in different states.

About MSP: In theory, an MSP is the minimum price set by the Government at which farmers can expect to sell their produce for the season. When market prices fall below the announced MSPs, procurement agencies step in to procure the crop and 'support' the prices.

QUOTE OF THE DAY

Genius is 1% talent and 99% percent hard work.

DAILY ANSWER WRITING PRACTICE

Qns: How money laundering helps in terror financing? What are the measures taken by Govt of India for its prevention?

Money laundering and the financing of terrorism are financial crimes with economic effects. Money laundering requires an underlying, primary, profit-making crime (such as corruption, drug trafficking, market manipulation, fraud, tax evasion), along with the intent to conceal the proceeds of the crime or to further the criminal enterprise. These activities generate financial flows that involve the diversion of resources away from economically- and socially-productive uses—and these diversions can have negative impacts on the financial sector and external stability of member states. They also have a corrosive, corrupting effect on society and the economic system as a whole. Because of the negative consequences of these forms of financial abuses on our members' economies and financial systems, the IMF has been very active for over ten years in the AML/CFT area.

AML/CFT controls, when effectively implemented, mitigate the adverse effects of criminal economic activity and promote integrity and stability in financial markets. Money laundering & terror funding activities is being taken seriously by FATF which is a G-7 initiative.

Steps to combat terror financing in the country:

- Strengthening the provisions in the Unlawful Activities (Prevention) Act, 1967 by criminalizing the production or smuggling or circulation of high quality counterfeit Indian currency.
- A Terror Funding and Fake Currency (TFFC) Cell has been constituted in National Investigation Agency (NIA) to conduct focused investigation of terror funding and fake currency cases.
- FICN Coordination Group (FCORD) has been formed by the Ministry of Home Affairs to share intelligence/information among the security agencies of the states/centre to counter the problem of circulation of fake currency notes.
- A Memorandum of Understanding (MoU) has been signed between India and Bangladesh to prevent and counter smuggling and circulation of fake currency notes.

DAILY CURRENT AFFAIRS BASED MCQS

1. The Milky Way is classified as which of the following?
- Spiral Galaxy
 - Electrical Galaxy
 - Irregular Galaxy
 - Round Galaxy
2. Consider the following statement w.r.t Milky Way.
- Based on the Gaia space observatory data, the scientists have observed that the Milky Way merged with another smaller galaxy in a cosmic collision roughly 10 billion years ago.
 - NASA's Gaia telescope is an ambitious mission to chart a three-dimensional map of our Galaxy, the Milky Way.
 - Galaxies of all types, including the Milky Way, began to form relatively soon after the Big Bang explosion that marked the beginning of the universe some 13.8 billion years ago.
- Which of the statements given above is/are correct?
- 1 only
 - 1 and 3 only**
 - 3 only
 - 1, 2 and 3
3. With reference to the 'Commission for Agricultural Costs and Prices (CACP)', consider the following statements:
- It is an attached office of the Ministry of Finance which came into existence in January 1965.
 - It is mandated to recommend Minimum Support Prices (MSPs) to incentivize the cultivators to adopt modern technology, and raise productivity and overall grain production in line with the emerging demand patterns in the country.
 - It is an advisory body whose recommendations are not binding on Government.
- Which of the statements given above is/are NOT correct?
- 1 only**
 - 2 only
 - 1 and 3
 - None of the above
4. Consider the following statements w.r.t Prandhan Mantri Laghu Vyapari Maan-dhan Yojana (PMLVMDY)
- The scheme assures a minimum monthly pension of Rs. 3,000/- month after attaining the age of 60 years
 - LIC has been chosen as pension fund for this scheme.
- Which of the statements is/are correct?
- 1 only
 - 2 only
 - Both 1 and 2**
 - Neither 1 nor 2
5. Which of the following Visas belong to the USA?
- H-1B
 - L-2
 - EB-5
- Select the correct answer from the codes given below
- 1 and 2
 - 2 and 3
 - 1 and 3
 - 1, 2 and 3**
6. With reference to 'Global Innovation Index (GII)' which of the following statements is/are NOT correct?
- It has been released by the World Bank with theme 'Creating Healthy Lives-The Future of Technical Innovation'.
 - India has risen 29 spots in the Index in last 5 years from 81 in 2014 to 52 in 2019.
 - India improved its ranking in four out of seven pillars of GII, such as knowledge and technology outputs , market sophistication, human capital and research and institutions.
- Select the correct answer using the code given below:
- 1 only**
 - 2 only
 - 1 and 3
 - 2 and 3
7. Which of the following states has topped in the Grid Connected Rooftop Solar programme.
- Rajasthan
 - Gujarat**
 - Maharashtra
 - Kerala