CURRENT AFFAIRS

WEEK -1 OCTOBER, 2019

ANCIENT INDIA

KEELADI – An Urban Settlement of Sangam Age

ENVIRONMENT

Olimate and Clean Air Coalition

GEOGRAPHY

- Atlantic Meridional Overturning Circulation (AMOC)
- Coastal Regulation Zone
- Ø Golden Triangle and Golden Crescent

GOVERNANCE

Digital Census

HISTORY

Pandit Deendayal Upadhyaya

INTERNATIONAL RELATIONS

- Caribbean Community and Common Market (CARICOM)
- Financial Action Task Force on Money Laundering
- Quad Grouping

POLITY & GOVERNANCE

- All India Survey on Higher Education
- Zonal Councils

SCIENCE & TECHNOLOGY

- Alzheimer's disease
- Prescription for plant-based diet overlooks vitamin B12 deficienc

MISCELLANEOUS

- Analgesic
- Endosulfan
- Ganga data collector App
- Global Goalkeeper Award 2019
- $\ensuremath{\textcircled{}}$ MOSAIC Mission
- New species of frog discovered in Arunachal
- Pollinator Sanctuary: A new sustainable solution model from Canada

ECONOMY

Orporate tax rate cuts

ENVIRONMENT

⑦ The Montreal Protocol – Success Story

INTERNATIONAL RELATIONS

 India-Australia Relations: From Periphery to Strategic Ties

POLITY

Whither the National Green Tribunal?

SECURITY

 India's National Security – Challenges and Priorities

SOCIAL ISSUES

- The growing menace of Drug abuse in India
- Sewers are gas chambers where manual scavengers are sent to die
 - Soay sheep
 - Sagittarius A
 - Shifting of Tigers
 - World Digital competitiveness ranking 2019



collector App

- Disclaimer -

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS ANALYST WEEK-1 (OCTOBER, 2019)

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SECTION: A (MAINS)

CURRENT AFFAIRS

CORPORATE TAX RATE CUTS

CONTEXT

• In its boldest gambit yet to stir up the economy, the government has issued an ordinance to reduce the corporate tax rate for domestic firms and new manufacturing units by 10 to 12 percentage points, effectively bringing India's tax rates on par with its competing Asian peers.

• BACKGROUND

- The Indian economy is currently going through its worst deceleration in six years. The earliest markers of an economy's health are found in car showrooms, retail malls and the rapidity of activity in farms. Recent months' data related to these suggests that the Indian economy is going through a slowdown.
- The latest measures are by far the biggest, and the boldest step to revive the Indian economy, which until recently, was feted as a global growth engine. The goal is to turn India into an investors' hub, demonstrate the government's intent to walk the talk on economic management, restore investors' confidence and boost sentiments and demand.

Tax rate changes

- The government has slashed the corporate income tax rate from 30 percent to 22 percent for all companies. Inclusive of cess and surcharges the effective corporate tax rate in India now comes down to corporate tax to 25.17 per cent.
- Newer companies, which are set up after October 1, 2019, will be subjected to an even lower effective tax rate of 17 percent.
- The new rates bring India closer, in some cases lower, to the rates prevalent in many of the emerging and industrialised countries. The new corporate income tax rates in India will be lower than USA (27 percent), Japan (30.62 percent), Brazil (34 percent), and Germany (30 percent) and is similar to China (25 percent) and Korea (25 percent).

• ANALYSIS

6

Benefits of corporate tax rate cut

- The benefits are immense, as for every rupee of profit a company makes progressively, it has more with itself to invest or pass on to consumers through price cuts.
- It might expand the corporate universe as new firms will now be taxed at 15 per cent.
- The present tax cut can help revive economy, boost tax collections and compensate for the loss of revenue.
- The big boost to shareholder value is unmistakable and the equity market showed its appreciation by

surging the most in a single day in over a decade.

- It can make India more competitive on the global stage by making Indian corporate tax rates comparable to that of rates in East Asia.
- Thus India is likely to attract investors from across the globe as lower tax outflow could increase the share of profit making companies in India over time.
- Above factors will generate more employment and will help increase the purchasing power of the people thereby boosting sales which have been hit in major sectors like automobile sector.
- It will give boost to government initiatives like Make in India, Startup India etc. which had taken a hit in the past couple of years.

Issues surrounding the corporate tax rate cut

- The government cannot rely on a tax cut alone, and needs a monetary boost through further policy rate cuts and, perhaps, even advocate greater government spending to boost the economy which is difficult due to rising fiscal deficit.
- The tax cut is expected to cause a yearly revenue loss of ₹1.45 lakh crores to the government. The negative effects of this widening fiscal deficit on borrowing costs and bond market cannot be ignored, and hence, it is important to ask whether the benefits to the economy justify the fiscal costs.
- The rupee is likely to remain around the present level, whereas bond yields could inch up to 7 per cent level in the near term according to currency and bond dealers.
- Some see the present tax cut simply as a concession to corporate houses rather than as a structural reform that could boost the wider economy.
- In a depressed economy, when inflation is low, there is hardly any incentive for the producer to invest in fixed assets or create capacity. Analysts worry that much of the tax cut will go into savings rather than investments.
- The austerity among Indians has come partly due to wage stagnation even as cost of living went up and also because prospects of income look bleak. The pain is deeper in rural India. For this to change, companies have to lower prices of products or share their profits through wage hikes. Public spending



too has to increase. This seems difficult from both companies and government side.

• WAY FORWARD

• The government will also need to simultaneously enact along with these tax cuts other structural reforms that reduce entry barriers in the economy

Practice Question

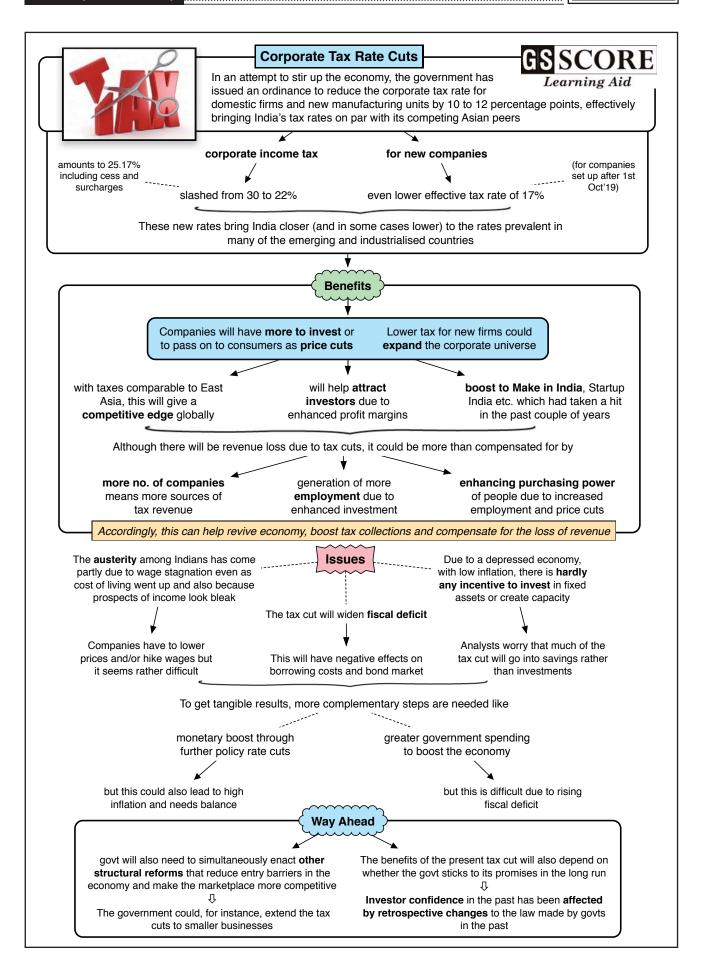
and make the marketplace more competitive. The government could, for instance, extend the tax cuts to smaller businesses.

- The benefits of the present tax cut will also depend on whether the government sticks to its promises in the long run. Investor confidence in the past has been affected by retrospective changes to the law made by governments in the past.
- Examine how the recently introduced corporate tax rate cuts would help tackle the economic slowdown and promote India as an investment destination.



WEEK - 1 (OCTOBER, 2019)







THE MONTREAL PROTOCOL – SUCCESS STORY

CONTEXT

• Year 2019 celebrates over three decades of remarkable international cooperation to protect the ozone layer and the climate under the Montreal Protocol.

• BACKGROUND:

What is Montreal Protocol?

- The Montreal Protocol is an international environmental agreement with universal ratification which was adopted in 1987 to protect the earth's ozone layer by eliminating use of ozone depleting substances (ODS).
- Why has the Montreal Protocol been so successful compared to other efforts at international cooperation?
 - Comprehensive negotiations: From the start, negotiation relied heavily on leadership and innovative approaches. Much negotiation was held in small, informal groups. This enabled a genuine exchange of views and the opportunity to take some issues on trust, such as the subsequent development of the Multilateral Fund. The people negotiating the treaty also included scientists, which lent credibility.
 - Universal consensus: The Montreal Protocol is the only universal UN Agreement, signed by 196 states and the EU. It has more signatories than any other international agreement or body, including the United Nations itself.
 - ➤ The idea of using trade policy as a punishment mechanism: Due to this readily definable cause and effect relationship, the Montreal Protocol was able to establish strong enforcement provisions as well as strong commitments.
 - Adjustment provision: The science was not definite at the time of adoption of the Montreal protocol, so the negotiators developed a highly flexible instrument which could increase or decrease controls as the science became clearer. This flexibility meant the protocol could be amended to include stricter controls: more ozone-depleting substances added to the control list and total phase-out, rather than partial phase-out, called for.
 - Developing countries are given more time to comply with the phase out decisions, and also they receive funding from the Multilateral Fund to facilitate compliance with the Protocol's provisions.

Positive outcomes of Montreal protocol:

- The Montreal Protocol has led to the phase-out of 99 per cent of ozone-depleting chemicals in refrigerators, air-conditioners and many other products.
- The latest Scientific Assessment of Ozone Depletion completed in 2018, shows that, as a result, parts of the ozone layer have recovered at a rate of 1-3% per decade since 2000.
- At projected rates, Northern Hemisphere and midlatitude ozone will heal completely by the 2030s. The Southern Hemisphere will follow in the 2050s and Polar Regions by 2060.
- Ozone layer protection efforts have also contributed to the fight against climate change by averting an estimated 135 billion tonnes of carbon dioxide equivalent emissions, from 1990 to 2010.

Why there was need of Kigali amendment?

- Given their zero impact on the depletion of the ozone layer, HFCs are currently used as replacements of hydro chlorofluorocarbons (HCFCs) and chlorofluorocarbons (CFCs), however they are powerful greenhouse gases.
- As Montreal protocol is successful in controlling production of Ozone depleting substances, including HFCs in Montreal protocol will help to control global warming and climate change.
- Therefore the Kigali Amendment aimed for the phase-down of hydro fluorocarbons (HFCs) by cutting their production and consumption. The goal is to achieve over 80% reduction in HFC consumption by 2047. The impact of the amendment will avoid up to 0.5 °C increase in global temperature by the end of the century.

What are the steps taken by India in the direction of Montreal Protocol?

- India completely phased out production and consumption of Chlorofluorocarbons, carbon tetrachloride and halons, man-made chemicals responsible for the depletion of the Ozone Layer. This remarkable milestone was achieved two years ahead of schedule.
- India has contributed significantly to this global environmental cause, by reducing 25,000 ozone depleting particles tonnes and a further potential of 23,000 ozone depleting particles.



WEEK - 1 (OCTOBER, 2019)

GSSCORE

- Carbon tetrachloride, a harmful chemical is used by some of the largest steel manufacturing units in the country, to clean steel. Today, many steel companies, including the country's largest public sector undertaking in the steel sector, use tetrachloroethene which is less harmful for the environment.
- Manufacturers of metered dose inhalers have completely transitioned to ozone-friendly and affordable alternatives, demonstrating the potential for environment-friendly public health management in the country.
- As a next step India is planning to phase out Hydro chlorofluorocarbons (HCFCs) by 2030, as part of the country's commitment to the Montreal Protocol.
- India became one of the first countries in the world to launch a comprehensive Cooling Action plan which has a long term vision to address the cooling requirement across sectors such as residential and commercial buildings, cold-chain, refrigeration, transport and industries. The India Cooling Action Plan (ICAP) lists out actions which can help reduce the cooling demand, which will also help in reducing both direct and indirect emissions.
- Global cooling coalition: The 'Cool Coalition' links actions across the Kigali Amendment to the Montreal Protocol, the Paris Agreement on climate change and the SDGs, and aims to accelerate progress in advance of the UN Secretary-General's

What are the major challenges that India needs to address?

- Integrating energy efficiency with refrigerant transitions: With a rapidly growing domestic demand for air conditioning, using HFC phase down as an opportunity to redesign room air conditioners (ACs) to be more efficient is a major challenge.
- The challenge of developing/selecting climate friendly alternatives mainly in refrigeration, air-conditioning, and foam products.
- Controlling Illegal trade of CFCs.
- Inclusion of Ozone depletion issues and its relation to refrigeration practices in the curricula of all technical training institutes in the country.
- Mechanism for higher involvement of State level organizations on ODS phase-out.

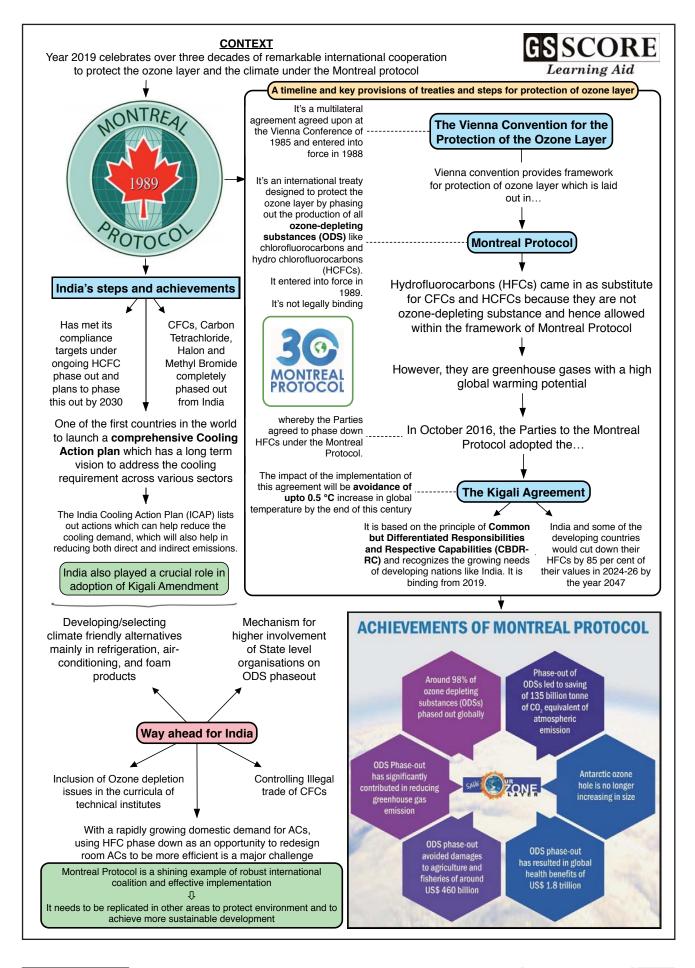
• WAY FORWARD:

 With the robust international coalitions and effective implementation of the framework, Montreal protocol achieved a milestone in reducing ozone depletion. To protect environment and to achieve more sustainable development there is need to follow the pattern of Montreal protocol in solving other environmental problems.

Practice Question

Explain how Montreal protocol is successful in reducing ozone depletion?

GSSCORE



INDIA-AUSTRALIA RELATIONS: FROM PERIPHERY TO STRATEGIC TIES

CONTEXT

• Defence Minister Rajnath Singh is slated to visit Australia in November as India and Australia are emerging as close strategic partners in the Indo-Pacific.

• BACKGROUND

- India and Australia established diplomatic relations in the pre-Independence period. It started with the opening of the Consulate General of India as a Trade Office in Sydney in 1941.
- Both the countries share the ethos and values of pluralism, liberal democracy, commitment to rule of law, Commonwealth traditions, international peace, development and security.
- The cooperation in defence, civil nuclear energy, education, sports and joint efforts to counter china constitute the principal pillars of our Strategic Partnership.
- India is Australia's 4th largest trading partner with Australian merchandise & services exports to India valued at A\$ 21.1 billion (2018) and two-way bilateral merchandise & services trade valued at A\$29.1 billion (2018).

• ANALYSIS

Bilateral Partnerships

- Political Cooperation
 - Both the countries are members of G-20, ASEAN Regional Forum (ARF), IORA (Indian Ocean Rim Association), Asia Pacific Partnership on Climate and Clean Development, East Asia Summit and the Commonwealth.
 - India and Australia support a multi-polar world order. Australia has continued to support India's claim for permanent membership of the Security Council, the APEC (Asia Pacific Economic Cooperation) and the reforms of the United Nations.
 - Australia welcomed joining of India to MTCR (Missile Technology Control Regime)
 - ➤ Quadrilateral Security Dialogue on East Asia in which India-Australia play an important role to discuss ways to balance China's growing ambitions in the Indo-Pacific region
 - ➤ Australia-India Leadership Dialogue involves active participation from Government, Business, Public Life, Civil Society and media for leadership development.

- Australia India Youth Dialogue, which brings interaction between young leaders of both countries to enhance bilateral relationship
- Economic and Trade Relationship: The India-Australia economic relationship has grown significantly in recent years.
 - Bilateral trade: India's trade in goods and services with Australia was approximately US\$ 15.6 billion (A\$20.7 bn) in 2016. India's exports to Australia stood approximately at US\$4.6 billion (A\$6.1 bn) in 2016 while India's import from Australia during the same period stood at US\$11 billion (A\$14.6 bn).
 - India's main exports to Australia are Passenger Motor Vehicle & machinery, Pearls, Gems and Jewellery, medicaments and Refined Petroleum while our major imports are Coal, Nonmonetary Gold, Copper, Wool, Fertilizers and education related services.
 - The two countries are currently discussing a Comprehensive Economic Cooperation Agreement (CECA) which will provide greater market access to exporters of goods and services and remove non-tariff barriers, encourage investment and address the border restrictions to trade. India is also seeking to address its adverse balance of trade in Goods and Services through specialized market access for its products.
 - India-Australia CEO Forum is a mechanism for business from both nations to engage directly on ways to build the bilateral trade and investment relationship. The Forum includes heads of Indian and Australian business. The Forum held its last meeting in New Delhi in 2017.
 - ➤ The Indian companies have made larger investments in Australia. Total Indian investment in Australia is near A\$ 15.5 billion (up from A\$600 million in 2006), while total Australian investment in India is over A\$13.9 billion.
 - ➤ The importance of India for Australia can be gauged from the fact that in 2018 Australian Government commissioned an 'India Economic Strategy' cement India as a priority economic partner.



• Civil Nuclear Cooperation

- ➤ To get unrestricted Uranium supply India signed a Civil Nuclear Cooperation Agreement with Australia in 2014 which came into force in 2015.
- ➤ With the passage of passing the "Civil Nuclear Transfer to India Bill 2016" by Australian Parliament in 2016 Uranium mining companies in Australia can supply uranium to India for civil use.
- Australia has about 40 per cent of the world's uranium reserves and exports nearly 7,000 tonnes of yellow cake annually. India is in need of regular Uranium supply to ensure energy security.

Defence Cooperation

- The defence cooperation extends to research, development and industry engagement.
- Regular meetings at the level of the Defence Minister. Shri A K Antony, Former Defence Minister was the first Defence minister to visit Australia. Rajnath Singh, Defence Minister is visiting Australia in November as both countries are emerging close strategic partners in Indo-Pacific region to contain rising China.
- Strengthening cooperation and exploring training avenues with Australia's Maritime Border Command and conduct regular maritime exercises. Bothe navies have recently participated in each other's naval exercises. AUSINDEX 2019 was held off the coast of Vishakhapatnam from April 2019.
- Agriculture, Science and Technology
 - A number of collaborative research projects in agricultural research, astronomy and astrophysics, environmental sciences, microelectronics, nanotechnology, renewable energy, marine sciences and earth systems sciences have been taken up.
 - An Australia-India Strategic Research Fund (AISRF) has been set up to fuel research and development
 - Each country contributed A\$ 65 million over a five year period.
 - Australia is also cooperating in our Clean Ganga Project
- Resources and Energy Security
 - ➤ A Joint Working Group on Energy and Minerals was established in 1999 to expand bilateral relationship in the energy and resources sector.
 - During the visit of our Prime Minister Modi to Australia in November 2014, both countries agreed to cooperate on transfer of clean coal

technology.

- ➤ The resources and energy policy developments and reforms, including opportunities and challenges in mining, petroleum and gas, power, new and renewable energy, as well as challenges in skills, science and innovation and infrastructure have been discussed too.
- Australia signed a framework agreement for Australia to join the International Solar Alliance, led by India and France in 2017.
- Education, Sports, Art and Culture
 - ➤ The Joint Working Group on Education has identified several key areas for co-operation, including collaborative research in education policy, student exchange programmes, capacity building in vocational education and distance learning in higher education.
 - Cooperation between Australian and Indian Universities and in particular, Joint PhD Programme to encourage research, promote school level cooperation under which an Australian team can come and study 5-7 States in India and promote Universities tie-ups.
 - Australia has also agreed to help in establishing
 a Sports University in India.
 - **An MoU in the field of Tourism** was signed between the two countries during the visit of PM Modi to Australia in November 2014, which is expected to promote and support the growth in the Tourism Industry.
 - Confluence, Festival of India in Australia, is first-of-its-kind Indian music and dance festival in Australia. The purpose of the festival is to showcase India's rich and diverse culture. The festival is an initiative of Indian government supported by the Australian side. Confluence 4 will be held in November 2019.

Need for Strengthening Relations with Australia

- ➤ To counter China's rising maritime influence, India needs Australia in Quad to balance China in the Indo-Pacific region. Both India and Australia view it as one of many plurilaterals to keep the Indo-Pacific region stable. Both the nations can therefore serve together as the net security provider in the region.
- ➤ To emerge as a political power in the region, India needs to strengthen its relations with Australia to work on common issues like transnational crime, terrorism, people smuggling, and illegal fishing.
- To make India world's manufacturing Hub under 'Make in India' programme it can

significantly use Australian expertise in the field of health, education and tourism.

- ➤ India needs Australia in the skill development of its largest demographic dividend in the world. Australia is well-equipped to assist India in knowledge-sharing, education and skill development. The two countries also have enormous potential to build on their peopleto-people links and thus their soft power influence.
- India is the third largest source of immigrants to Australia and the second largest source for skilled professionals. This should give sufficient impetus to build a public understanding of each other and thereby improve public policy.
- There is a great scope for regional economic integration in the Indo-Pacific, one of the most flourishing trade zones in the world. The Regional Comprehensive Economic Partnership (RCEP) is a good platform for India to work towards the goal of regional economic development, since India is not yet a part of the Trans-Pacific Partnership (TPP-11 or CPTPP).
- Trilateral engagements with crucial nations like Indonesia and Japan and deeper engagement with regional groups like the Indian Ocean Rim Association and East Asia Summit will also strengthen the ties between India and Australia.

Challenges

• Emerging China: The Indo-Pacific region is facing a range of traditional security challenges that relate to issues of trust in the form of China which has emerged as a regional power and has little faith in rule based order.

Practice Question

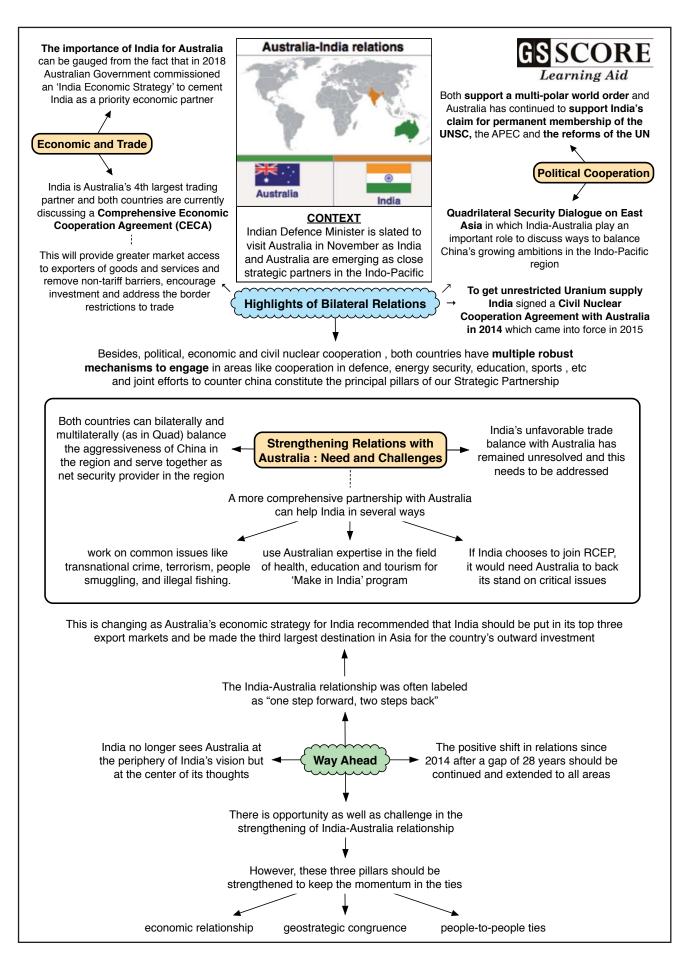
- Security Challenges: There are also a growing number of non-traditional and trans-boundary security challenges, including terrorism, natural disasters and pandemics.
- Trade Deficit: India faces unfavorable trade with Australia and despite opening talks for a comprehensive economic cooperation agreement in 2011, the agreement which would have significantly lowered the trade balance in favour of India, has remained elusive.
- Violence against Indian Diaspora in Australia has become a new irritant in the relation as crimes against Indians have increased.

• WAY FORWARD

- The India-Australia relationship was often labeled as "one step forward, two steps back" is changing as Australia's economic strategy for India recommended that India should be put in its top three export markets and be made the third largest destination in Asia for the country's outward investment.
- The positive shift in relations since 2014 after a gap of 28 years should be continued and extended to all areas. India no longer sees Australia at the periphery of India's vision but at the center of its thoughts.
- There is opportunity as well as challenge in the strengthening of India-Australia relationship. However, the three pillars in the form of economic relationship, geostrategic congruence and peopleto-people ties should be strengthened to keep the momentum in the ties.

GSSCORE

• There has been a drastic change in Indian foreign affairs towards viewing Australia from the periphery to the center of its vision. In the light of this statement explain the developments in India-Australia relations emerging as strategic partners in Indo-Pacific region?



GSSCORE

WHITHER THE NATIONAL GREEN TRIBUNAL?

CONTEXT

• The government has recently overlooked the rule to change the tenure of appointees in the National Green Tribunal

Salient features of NGT

- The National Green Tribunal has been established under the National Green Tribunal Act 2010 for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto. It is a specialized body equipped with the necessary expertise to handle environmental disputes involving multidisciplinary issues.
- The NGT is not bound by the procedure laid down under the Code of Civil Procedure, 1908, but shall be guided by principles of natural justice.
- NGT is also not bound by the rules of evidence as enshrined in the Indian Evidence Act, 1872.
- It will be relatively easier (as opposed to approaching a court) for conservation groups to present facts and issues before the NGT, including pointing out technical flaws in a project, or proposing alternatives that could minimize environmental damage but which have not been considered.
- While passing Orders/decisions/awards, the NGT will apply the principles of sustainable development, the precautionary principle and the polluter pays principles. However, it must be noted that if the NGT holds that a claim is false, it can impose costs including lost benefits due to any interim injunction.

ANALYSIS ANALYSIS

Strengths of National Green Tribunal

- The number of environmental judgements delivered by the NGT from its inception is on an increasing trend and thus the National Green Tribunal has emerged as a critical role player in regulating environmental issues ranging from waste management to deforestation.
- By setting up an Alternative Dispute Resolution mechanism it helps in the evolution of

environmental jurisprudence.

- It helps in reducing burdens on higher courts as it specifically deals with environmental cases that were decided by the civil courts earlier.
- It settles cases with lesser expenses and is less formal and a faster way of settling cases is also followed by the tribunal.
- It plays an important role in curbing damage to the environment.
- The Chairperson and the other members are not eligible for reappointment so they can give judgments without any pressure.
- It ensures whether the Environment Impact Assessment process is strictly observed.

Issues with the Act

- The act has limited the jurisdiction of tribunal to "substantial question of environment" i.e. situations where 'damage to public health is broadly measurable' or 'significant damage to environment' or relates to 'Point Source of Pollution'. The question related to environment can't left on discretion of an individual especially on subjective assessment whether environment damage is substantial or not.
- NGT Jurisdiction is confined to where community at large is affected by specific form of activity such as pollution. It excludes individual or Group of individuals who deserves as much protection as to Community at Large.
- The qualifications for a technical member are more favourable to bureaucrats (especially retired) and to irrelevant technocrats. The act considers higher degrees in Science, Technology and Administrative experience but no provision for ecologist, sociologist, environmentalist, civil society or NGO, etc.
- The Act is silent on provision that who is liable to pay compensation or cost of damage to public health or environment. The MOEF state that it shall be notified in rules but this substantial concern shall be included in act only not on will of executive.
- The Act doesn't provide jurisdiction to Tribunal over all laws related to environment such as Wildlife Protection Act (1972), Indian Forest Act 1927, Scheduled Tribes (Recognition of Forest Rights Act) 2005 and various other state legislations.

Other Implementation and functional issues

- From the very beginning, the Government of India has not been enthusiastic to see NGT function as an effective body and the administrative support supplied by the Government has been poor. For example – there is absence of basic infrastructure facilities and human resources; the NGT has never got the minimum strength of ten judicial and ten expert members to address the increasing number of environmental litigations across the country etc.
- While the scale and nature of environmental litigation has changed drastically over the years, the government has not shown any seriousness in appointing a variety of expert members to address complex environmental problems ranging from nuclear waste to bio-medical wastes to hazardous wastes.
- Complex environmental problems demand special knowledge and expertise. In the absence of variety of expert members, decisions, especially those related to the quantum of compensation amount to be paid by the polluter are arrived at without any scientific basis. This has resulted in an increasing number of appeals against the NGT's decisions in the Supreme Court.
- There are also serious challenges as far as implementation of the NGT orders is concerned.
 For example, Rule 35 (1) of the Act specifies that the compensation amount as ordered by the tribunal should be remitted to the authority of

Practice Question

the Environmental Relief Fund within a period of 30 days from the date of order or award or as otherwise ordered by the tribunal. Invariably, it is observed that the polluters don't abide by this rule.

- The NGT orders are increasingly challenged in the Supreme Court, where a heavy penalty has been imposed by the tribunal thereby leading to increasing backlog of cases in NGT.
- There is no institutional mechanism to ensure that the environmental regulatory authorities comply with the orders of the tribunal. Thus most of the landmark orders of the NGT related to Ganga water pollution, Delhi air pollution, illegal mining, and solid waste management remain unenforced.

• WAY FORWARD

- The bottom line is that NGT has done well so far. But many improvements are still required to make accessible, speedy and effective resolution of environmental disputes a practical reality. For this, NGT must be strengthened and not weakened.
- We should thus have specialised environmental courts and regularly restructure administrative and financial support for the court to increase efficiency and reduce costs, and in an ideal world, create benefits of true cost-efficiency.
- Though NGT has done an impeccable job in past few years to regulate environmental issues, it refuses through various functional and political issues. Examine.



LONE WOLF ATTACKS

CONTEXT

• Masood Azhar is heard in a recent audio clip exhorting 'Kashmiri' youngsters to do their religious duty by rising up against India's move to abrogate Article 370. Which will attract terrorists and lone wolf attackers.

• BACKGROUND

- A lone wolf attack is undertaken by a very small group or an individual in support of a larger cause, but without the overall supervision or support of a terrorist organisation.
- The potential for such attacks in various parts of the world is evident from the call given by the Islamic State (IS) encouraging its supporters and sympathisers, who are not formally enlisted cadres, to undertake lone wolf strikes.
- India has remained free of the phenomenon until now. This situation could, however, change as is indicated by some distinct shifts in the nature of the terrorist challenge confronting the country.
- The IS has attempted to exploit the chasms in society as a result of perceived religious persecution. This is accompanied by articulate, strong, reasoned and clear messages which draw the youth away from the chaos and inherent fragility of modern societies. While India has not experienced a lone wolf terrorist strike, there have been cases of recruitment for propagating the IS ideology and participating in the on-going conflict in Syria.
- Thus it is a matter of time before they find recruits willing to employ violence in India itself.

• ANALYSIS

Challenges to Undertaking Lone Wolf Attacks in India

- Unlike in the US where sophisticated weapons can be easily bought by ordinary citizens, gaining access to such weaponry in India is difficult as is the ability to obtain licenses. Only low quality country-made weapons are available in India and these are not ideally suited for lone wolf attacks.
- Indians have not displayed the psychological willingness to undertake high risk attacks.
- Over a period of time, the deployment of private security at high value targets like malls, hotels and schools has been upgraded, which acts as a deterrent to an individual aiming to target them.
- The absence of past examples of lone wolf attacks in India inculcates the fear of the unknown in the minds of potential volunteers.

India's vulnerabilities

- Police lack capacities that are necessary for undertaking clinical operations to limit potential damage.
- Heavy concentration of people in public areas offers a large number of potential targets. While some installations have utilised the limited protection offered by private security measures, a large number of public places continue to remain vulnerable.
- A fast growing population, especially youth with access to mass media and social media are easy targets for radicalization.
- False unrestrained propaganda suggesting an increasing level of tolerance and communal tension tends to raise alarm especially amongst vulnerable sections and minorities, who then can be easily radicalized.

Reasons for rising such lone wolfs terror threats across the globe

- Perception of 'Global Terrorism' has undergone a massive makeover with the expansion of violent armed terror groups beyond the Middle East to South Asia and African continent.
- State support has granted terrorist groups access to resources, guidance and logistics, and providing sponsorship and safe havens have further played a major role in the phenomenal growth of global terrorism.
- State-of-the-art communication systems are available to the terrorist which is at times better than the ones being used by the counter-terrorist agencies.
- Access to advanced technology including cyberspace, Internet, electronic mail, etc. has provided terrorist groups with a global communication system
- The new face of global terrorism can be most vividly seen in the dramatic change and growth in its infrastructure. The terrorist movement has come a long way from selective recruitment in secret cells to mass recruitment.
- The source of recruitment and training is no longer confined to the affected areas but spans the entire globe, with a phenomenal up gradation of weaponry. Funds and finance channels are no



longer confined to resources locally mobilized through individual contributions, extortion and crime.

 Another relatively new dimension is the networking of terrorist groups with the criminal underworld including organized crime gangs, gunrunners, smugglers, drug peddlers, with hawala and parallel banking channels being used for ensuring global flows of finance.

Steps taken by India to counter this menace

- India has taken steps for setting up of Joint Working Groups (JWGs) on counter-terrorism/ security matters with key countries.
- Bilateral treaties on Mutual Legal Assistance (MLATs) in Criminal matters to facilitate investigation, collection of evidence, transfer of witnesses, location & action against proceeds of crime etc. have been signed with other countries.
- It has identified several key areas and allocated enough budgetary resources to address this issue.
- It has boosted the security-related infrastructure at the border management by launching new schemes, and has been able to successfully minimize cross-border-infiltration.
- Substantial funds to the police modernisation programmes have been allocated all over the country with a view to ensure quick and better response mechanisms.
- It has raised Regional Hubs of NSG battalions in important strategic locations, to meet any unforeseen challenges.
- Demonetization was introduced and raids were conducted by Security Agencies to choke the funding patterns of various terrorists' outfits and

Practice Question

effectively curbed the expansionist designs of these outfits.

- A new Division in the Home Ministry has been created exclusively to deal with Counter Terrorism.
- Special projects such as Road Requirement Plan, improvement of Rail Connectivity, installation of Mobile Towers, improvement of education and health infrastructure, financial inclusion have been taken to promote development and thus curb the spread of terrorism.

• WAY FORWARD

- The approach must follow the sequence of awareness of the contagion, detection of potential and existing recruits and finally remedial action.
- There is a need to focus attention on potential target groups through monitoring and infiltration of social media sites that are the principle source of radical propaganda.
- Big data analytics must be used to discern the level of radicalisation of potential recruits, their networks and sources of information, funding and leadership in order to help unravel the roots of radicalisation.
- The police and intelligence services are neither trained nor equipped to handle the vital aspect of rolling back radicalisation in society. Helplines should be created and manned by professional counsellors and psychologists who can help reverse the process as part of the efforts of Non-Governmental Organisations (NGOs) supported by the state.
- Need for regular revision and tightening of laws to ensure that the existing loopholes and gaps in legal mechanisms are not exploited to continue with propagation of radical ideologies.
- Examine the reasons for rising lone wolf attacks across the globe. Also discuss India's vulnerabilities to such attack and the steps taken by it to tackle this menace.

THE GROWING MENACE OF DRUG ABUSE IN INDIA

CONTEXT

• The rising incidence of drug abuse in India has come to the limelight. A recent Punjab government forensic lab report revealed that the number of deaths caused by drug overdose is rising.

• BACKGROUND

- An AIIMS study in February 2019 found that around 5 crore Indians reported to have used cannabis and opioids at the time of the survey.
- About 60 lakh people are estimated to need help for their opioid use problems and nationally, it is estimated that there are about 8.5 lakh people who inject drugs.
- India's porous borders adjacent to Golden Triangle and Golden Crescent areas allow illegal drug smuggling.
- Of the total cases estimated by the report, more than half of them are contributed by states like Assam, Delhi, Haryana, Manipur, Mizoram, Sikkim and Uttar Pradesh.
- Punjab ranks consistently at the top or in the top five in many of the surveys conducted.

• ANALYSIS

Reasons for drug abuse

- **Experimentation and identity forming:** The incidence of drug abuse among children and adolescents is higher than the general population. This is notably because youth is a time for experimentation and identity forming. Changing cultural values, increasing economic stress are some other reasons leading to initiation into drugs use.
- **Glorification in media:** Quite often it so happens that doing drugs is romanticized and some fictional positive aspects of the same are shown.
- Neurotic pleasure: Abused drugs interact with the neurochemistry of the brain to produce feelings of pleasure. The intensity of this euphoria differs by the type of drug and how it is used.
- **To feel better:** Some people suffer from depression, social anxiety, stress-related disorders, and physical pain. Using drugs may be an attempt to lessen these feelings of distress. Stress especially plays a significant role in starting and continuing drug use as well as returning to drug use (relapsing) for those recovering from an addiction.
- **To boost performance:** Ours is a very competitive society, in which the pressure to perform athletically

and academically can be intense. Some people may turn to certain drugs like illegal or prescription stimulants because they think those substances will enhance or improve their performance.

- Changing traditional societal values: The processes of industrialization, urbanization and migration have led to loosening of the traditional methods of social control rendering an individual vulnerable to the stresses and strains of modern life.
- **To be accepted by peers:** Many people use drugs "because others are doing it"—or they think others are doing it—and they fear not being accepted in a social circle that includes drug-using peers. It soon reaches a stage where this need becomes much more than other needs in life and the person begins to believe their survival depends on those drugs.
- Lack of effective policing: Police sometimes turn blind eyes for the sake of their own profit. Police need to remain alert on surveillance so as to curb this drug syndicate.

Impact of Drug Abuse

- Drug abuse leads to physical, psychological, moral and intellectual decay. This means wastage of economic potential of young generation.
- Drug addiction **causes immense human distress**. Incidence of eve- teasing, group clashes, assault and impulsive murders increase with drug abuse.
- Drug use can lead to social and emotional problems and can affect relationships with family and friends.
- Problems with memory, attention and decisionmaking, which make daily living more difficult.
- Illegal production and distribution of drugs have **spawned crime and violence worldwide.**
- Increase in **incidences of HIV**, **hepatitis B and C and tuberculosis due to addiction** adds the reservoir of infection in the community burdening the health care system further.
- Women in India face greater problems from drug abuse. The consequences include domestic violence and infection with HIV, as well as the financial burden.



Solutions to Drug Problem

- Society based Solutions: Prevention programmes involving entities such as families, schools and the immediate communities are important in this regard. Media – especially the entertainment segment – also needs to understand its role in this context, glorification of drug use should completely stop. Role of NGO's is also important to fight this menace.
- Legal Measures: The Narcotic Drugs and Psychotropic Substances Act, 1985, were enacted with stringent provisions to curb this menace. The Act has been further amended by making provisions for the forfeiture of properties derived from illicit drugs trafficking. However, effective implementation and time bound judicial process are the need of the hour.
- International effort: India lies between two major drugs producing areas in the world i.e. Golden Crescent (Iran, Afghanistan and Pakistan) and Golden Triangle (Myanmar, Thailand, Laos and Myanmar). In order to stop supply of drugs from these areas International coordination is very important. We need to effectively use SAARC and ASEAN platform for joint coordinated action against drugs trafficking.
- Also, India is signatory to the following treaties and conventions. U.N. Convention on Narcotic Drugs (1961), U.N. Convention on Psychotropic Substances (1971), U.N. Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988), Transnational Crime Convention (2000).
- Manipur is exploring possibility to legalise cannabis, or marijuana growing and use it for medicinal and industrial usage. This may allow

Practice Question

proper regulations and thereby curb illegal usage of drugs

• WAY FORWARD

- Considering the wider perspective of the threat the drug menace presents, India has to spread more awareness among the public particularly among youth about ill effects of drug abuse and need to create adequate infrastructure for treatment, rehabilitation and harm reduction for the victim of the drug abuse.
- Make treatment available on Request like Any Other Health Service: Making treatment services widely available undermines the drug market and reduces the harms from drug abuse.
- Treatment should be defined broadly and must include abstinence-based treatment and easier access to methadone and other alternative maintenance drug.
- The most effective way to prevent adolescent drug abuse is to invest in youth and keep them interested and involved in life.
- Government should increase funding for after school programs, mentor programs, skills building/ job training programs and summer job programs.
- Psychiatrist counselling of drug patients: Early recognition Program.
- Include drug abuse related topics in school curriculum at appropriate age.
- Build more rehabilitation centres and create support groups like Alcoholic anonymous.
- What are the various reasons for rising drug abuse in India? Explain the impact it has on socio-eocnomic welfare of the youth.



SEWERS ARE GAS CHAMBERS WHERE MANUAL SCAVENGERS ARE SENT TO DIE

CONTEXT

• Sewers in India are like gas chambers where manual scavengers are sent to die, the Supreme Court remarked.

• BACKGROUND

- Every month four to five persons are losing their lives in manual scavenging
- A bench headed by Justice Arun Mishra asked Attorney General KK Venugopal as to why the government had failed to provide protective gear to manual scavengers.
- It also questions whether untouchability as a practice had really been abolished.
- Manual scavenging was banned 25 years ago with the passage of the Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993

Who is a 'manual scavenger'?

- Any person who has been employed to handle undecomposed human waste from an insanitary latrine, open drain or pit or railway track is a manual scavenger under this law.
- The person could have been employed by any one
 say, someone from their village or by an agency or contractor.
- It does not matter if she was given regular employment or engaged on contract basis, she is covered under this law.
- Exception Any person who has been employed to clean human waste and does so with the help of the appropriate protective gear and equipment will not be considered a manual scavenger under this law.
- Another group of people called 'safai karamcharis' are also sometimes considered as manual scavengers - however, they usually refer to people working as sweepers or cleaning workers in the municipalities, government or private organisations.

What is Manual Scavenging?

 Manual scavenging is the act of cleaning sewers or removal of waste from toilets without the use of safety equipment. In simple terms, untreated human excreta are removed from pit latrines or bucket toilets using buckets or shovels by hand.

- Manual scavengers use basic tools such as a bucket lined with a sack and a handle. The worker then carries the waste manually and takes it to the disposal sites.
- Manual scavenging is regarded as inhuman and a violation of the law. It constitutes problems that encompass domains of health and occupation, human rights and social justice, gender and caste, and human dignity.

What is this law (The Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act, 2013) about?

- Law makes it an offence to:
 - Employ people as manual scavengers to clean insanitary latrines.
 - Employ people to clean sewers and septic tanks without protective gear.
 - Construct insanitary latrines.
 - Not demolish or convert insanitary latrines within a certain period of this Act coming into force.

Causes of Manual Scavenging

- Lack of waterborne latrines: The major latrine used in urban areas is the dry latrines which are a major cause of manual scavenging. In India, for example, there are approximately 26 million insanitary latrines based on a report by Housing-Listing and Housing Census, 2011. Moreover, in rural areas, there are no strategies put forward to convert dry toilets.
- Lack of incomplete rehabilitation and employment opportunities: Most countries with scavenging problem lack means of fully rehabilitating the sanitation workers. Lack of employment opportunities is a major concern and a crucial player in the inclusion program. Also, lack of schemes that would help the families whose bread winners are manual scavengers contribute to its existence.
- Lack of liberation strategies: There are no proper strategies put forward to liberate manual scavengers psychologically. This pushes those in the practice to get even deeper and deeper into the practice of manual scavenging.

 Social stigmatization: People regard the manual scavengers as untouchable because of their work. Therefore, the society is not ready to accept and include them in community activities. No employer offers them a job and also, landlords bar them from renting their houses.

 Denial of the existence of manual scavengers: The government and other major private institutions deny the existence of scavenging despite the deaths reported especially in India. As a result, no measures are taken to solve this problem.

Effects of Manual Scavenging

- Health-related problems: The scavengers are exposed to gases such as hydrogen disulfide, carbon (IV) oxide, ammonia, and methane. Long exposure to hydrogen disulfide can lead to death by asphyxia. Also, the individual may experience epileptiform convulsions and may fall unconscious and later die. The gas is also associated with visual acuity.
- Structural violence against manual scavengers: Manualscavengers are exposed to two types of violence that are social violence and violence associated with caste discrimination. Caste discrimination and the job condition can cause them to be exposed to physical violence. Furthermore, the culture in India on caste is used to justify violence against them. For instance, most people regard them as illiterate and lazy people who do not to take up manual jobs. They further add that they opt for manual scavenging because it offers easy money.
- Caste and gender discrimination: Most of the manual scavengers are women and members of the marginal class. The caste is regarded as a lower class and is excluded from moving to a better occupation. As a result, the scavenging work is seen as part of their natural occupation. Also, the marginal caste from rural areas moving to urban areas to seek a better livelihood always ends up in the same occupation.
- Social discrimination: Most manual scavengers are stigmatized by the community due to the nature of their job. They are regarded as untouchable and they are forced to accept their condition. This problem is much deeper as their children are also discriminated and forced to occupy the same work as their parents.

Solutions of Manual Scavenging

 Involvement of different officials and community in initiatives: In order to tackle the problem through initiatives such as Namma toilets in India, it would be necessary to involve all the major skate holders involved. They include the District officials, Relations officer, Chief Medical Officer, and District Supply Officer among any other relevant officials. The inclusion of the community around the areas that

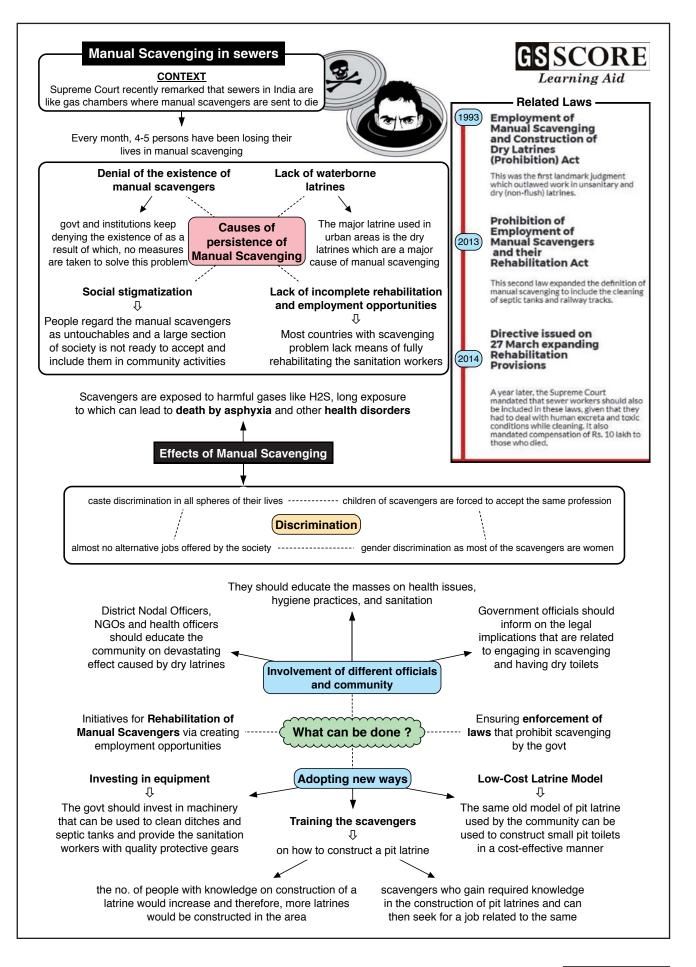
Practice Question

are most affected into the program is also of equal importance.

- **Creating Awareness:** District Nodal Officers, NGOs and health officers should educate the community on devastating effect caused by dry latrines. They should also educate the mass on health issues, hygiene practices, and sanitation. Government officials should inform on the legal implications that are related to engaging in scavenging and having dry toilets.
- Rehabilitation and reintegration of Manual Scavengers: Creation of more employment is one of the most important rehabilitation processes. The jobs created would aim to offer equal opportunities to the locals. The jobs created also act as a means to assimilate manual scavengers into the community. Other areas that are associated with social inclusion should also be established for instance the loaning schemes.
- **Low-Cost Latrine Model**: The same old model of pit latrine used by the community can be used to construct small pit toilets in a cost-effective manner. In order to ensure that the villagers fully participate in the activity, they can be provided with building materials and shown how to construct the latrines. The demonstration can be done in different areas within a given region. They can thereafter use the materials given to build the toilets themselves.
- **Training the locals**: Training the manual scavengers and their family how to construct a pit latrine would serve two purposes. First, the number of people with knowledge on construction of a latrine would increase and therefore, more latrines would be constructed in the area. Secondly, the scavengers who gain required knowledge in the construction of pit latrines and can then seek for a job related to the same. The training can be organized by the various organizations with the help of experienced masons.
- **Enforcement of law**: The government should enforce the law that prohibits scavenging. The law in a country such as India was enacted in 1993 and changes have been made in 2013. However. Governmental institutions are reluctant to act and go to great lengths in denying the existence of manual scavengers. People subjecting others into such inhuman activities should be arrested.
- **Investing in proper human waste management** equipment: The government should invest in pieces of machinery that can be used to clean ditches and septic tanks. They can import the pieces of machinery or tools in case they are not locally available. Also, the government can provide the sanitation workers with quality protective gears as seen in South Africa.
- Examine the causes and solutions prevailing in India to tackle the shameful practice of Manual Scavenging.

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KEELADI – AN URBAN SETTLEMENT OF SANGAM AGE

• **CONTEXT:** The Tamil Nadu Archaeology Department (TNAD) has stated that Keeladi excavations reveals sangam age to be much older than believed earlier.

• ABOUT: Where is Keeladi located?

 Keeladi is a small village near Silaiman on the border between Madurai and Sivagangai districts in Tamil Nadu, and also the site on the banks on Vaigai River where remains of ancient Sangam culture have been found.

What is the Significance of Keeladi finding?

- Generally, the Age of Sangam is considered between 3rd century BCE and 3rd century CE. But, the available Accelerator Mass Spectrometry (AMS) dates obtained for the Keeladi carbon samples push the date of Tamil-Brahmi to 6th century BCE. These scientific dates force to re-assess the widely held date of Sangam Age.
- The AMS dates obtained from Kodumanal and Porunthal pushed the date of Tamil-Brahmi to 5th century BCE. But, the Keeladi AMS dates further pushed the date to a century earlier i.e., 6th century BCE.
- As high literacy level is well achieved in 6th century BCE, naturally the beginning of historic period in Tamil Nadu goes back to 6th century BCE. The available evidences clearly suggest that the Early Historic period of Tamil Nadu begins in 6th century BCE and the Iron Age begins in 2 nd millennium BCE.
- It is generally believed that second urbanization observed in Gangetic valley did not occur in Tamil Nadu. But, the Keeladi excavation clearly suggests that the second urbanization too happened in Tamil Nadu in 6th century BCE.

What is Sangam Age?

- The Sangam Age constitutes an important chapter in the history of South India. According to Tamil legends, there existed three Sangams (Academy of Tamil poets) in ancient Tamil Nadu popularly called Muchchangam.
- These Sangams flourished under the royal patronage of the Pandyas.
- The first Sangam, held at Then Madurai, was attended by gods and legendary sages but no literary work of this Sangam was available.
- The second Sangam was held at Kapadapuram but the all the literary works had perished except Tolkappiyam.
- The third Sangam at Madurai was founded by Mudathirumaran. It was attended by a large number of poets who produced voluminous literature but only a few had survived.
- These Tamil literary works remain useful sources to reconstruct the history of the Sangam Age.

Historical importance of Madurai:

- It is one of the ancient cities in India that enjoyed continuity in the history from Prehistoric times. Due to its cultural prominence, Madurai is described as "The Athens of South India".
- It is also well known as a great centre for learning from very early times. As the seat of the Tamil academy called the Sangam, it wielded great influence in the literary and cultural fields.
- During the glorious rule of Pandyas, Madurai had overseas connections for both mmercial and cultural activities.



- The Pandyas and their capital city Madurai were well known to the Ancient Greeks and Romans.
- Megasthenese, the Greek ambassador of Seleukos Nicator at the court of the Chandra Gupta Maurya (320 B.C.), in these accounts gave a vivid picture of a South Indian Kingdoms.
- Strabo (C. 25. B.C.) stated that a Pandya king sent an embassy to the Roman Emperor Augustus.
- Pliny (C. 75 A.D.) mentioned about the Pandya, King Pandya and his capital Madurai.
- Ptolemy (C. 130 A.D.) also referred Madurai as the royal city of the Pandyas.
- The Arthasastra of Kautilya, while describing the trade between Northern and Southern India, spoke about the pearls and muslins of the Pandya country.
- The astronomer Varahamihirar referred the Pandya kingdom in his Brhatsamhita.

The earliest datable Ashoka's rock edicts Nos. 2 and 13 mention the South Indian Kingdoms viz, Chola, Pandya, Satyaputra and Keralaputra.

CLIMATE AND CLEAN AIR COALITION

• **CONTEXT:** Climate and Clean Air Coalition leaders agreed to reduce short-lived climate pollutants by 2030.

ABOUT: What is Climate and Clean Air Coalition (CCAC)?

- The Climate and Clean Air Coalition is a voluntary partnership of governments, intergovernmental organizations, businesses, scientific institutions and civil society organizations committed to improving air quality and protecting the climate through actions to reduce short-lived climate pollutants.
- Its global network currently includes over 120 state and non-state partners, and hundreds of local actors carrying out activities across economic sectors.

What are short-lived climate pollutants?

- Short-lived climate pollutants are those pollutants which are short lived in atmosphere.
- They are also known as Super Pollutants.
- Methane, black carbon and hydrofluorocarbons (HFCs) are some examples of short lived pollutants.
- They are many times more powerful than carbon dioxide at warming the planet.
- But because they are short-lived in the atmosphere, preventing emissions can rapidly reduce the rate of warming.

What is the Approach of CCAC to reduce short-lived climate pollutants?

- The Coalition's partners and initiative participants work in cooperation with key short-lived climate pollutant emitters and other stakeholders from around the world to encourage, enable and catalyse action to reduce emissions. To achieve real and ambitious reductions, the Coalition focuses on four key strategies:
 - Enable transformative action by providing knowledge, resources, and technical and institutional capacity to act and supporting the sharing of information, experience, and expertise.
 - Mobilize support for action to put short-lived climate pollutants on the policy map through advocacy at all levels of government and in the private sector and civil society.
 - Increase the availability of and access to financial resources to support the successful implementation of scalable, transformational action.



• Enhance scientific knowledge to help decision-makers scale up action and promote the multiple benefits of action on short-lived climate pollutants.

Funding of CCAC:

• The Coalition's activities are financed through a multi-donor **The Climate and Clean Air Trust Fund**, established in 2012, which is administered through UN Environment. While governments are the core of the Coalition's funding, contributions from the private sector and global community are encouraged.

Goal of CCAC:

• The Coalition's goal is to reduce short-lived climate pollutants beyond the recommendations made by the Intergovernmental Panel on Climate Change (IPCC) in its special report Global Warming of 1.5°C.

What are the recommendations made by the Intergovernmental Panel on Climate Change (IPCC)?

 According to the report, there need to be considerable cuts in emissions of black carbon (35 per cent by 2030), methane (37 per cent by 2030) and HFCs (70 per cent to 80 per cent by 2050) if the world is to keep the global warming below 1.5°C.

Benefits of increasing action on short-lived climate pollutants:

- It can avoid an estimated 2.4 million premature deaths from outdoor air pollution annually by 2030/.
- It can prevent as much as 52 million tonnes of crop losses per year, and slow the increase in global warming by as much as 0.6°C by 2050.
- It can also prevent the climate tipping points that can exacerbate long-term climate impacts and make adapting to climate change harder, especially for the poor and most vulnerable.

India and CCAC:

National Clean Air Programme (NCAP):

- Launched in January 2019, the NCAP is a comprehensive strategy with actions to prevent, control and reduce air pollution and improve air quality monitoring across the country.
- It aims to reduce fine particulate ($PM_{2.5}$) and particulate (PM_{10}) air pollution by 20 per cent-30 per cent by 2024.
- India has identified 102 non-attainment cities, with city-specific action plans being formulated.
- India formally joined the Climate & Clean Air Coalition (CCAC), becoming the 65th country to join the partnership.
- India plans to work with Climate Clean and Coalition countries on best practices and experiences for the effective implementation of India's National Clean Air Programme (NCAP).

ATLANTIC MERIDIONAL OVERTURNING CIRCULATION (AMOC)

• CONTEXT:

According to scientists weakening of AMOC could have drastic consequences on global climate.



ABOUT: What is Atlantic Meridional Overturning Circulation (AMOC)?

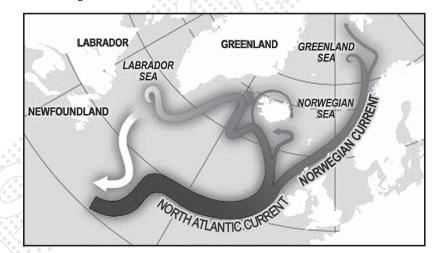
- The Atlantic Meridional Overturning Circulation (AMOC) is a large system of ocean currents that carry warm water from the tropics northwards into the North Atlantic.
- AMOC ensures the oceans are continually mixed, and heat and energy are distributed around Earth.

How does the AMOC work?

- The AMOC is a large system of ocean currents, like a conveyor belt, driven by differences in temperature, salt content and the water's density.
- As warm water flows northwards it cools and some evaporation occurs, which increases the amount of salt. Low temperature and a high salt content make the water denser, and this dense water sinks deep into the ocean.
- The cold, dense water slowly spreads southwards, several kilometres below the surface. Eventually, it gets pulled back to the surface and warms in a process called "upwelling" and the circulation is complete.

Has the AMOC been changing?

- For thousands of years, AMOC has remained stable, but since the past 15 years, it has been weakening which could have dramatic consequences for Europe and other parts of the Atlantic rim.
- Indirect evidence (for example from sediments on the sea floor) shows that there have been some large, rapid changes in the AMOC in the past (for example around the end of the last ice age).



What will be the effect of climate change on the AMOC?

- Climate models suggest that the AMOC will weaken over the 21st Century as greenhouse gases increase. This is because as the atmosphere warms, the surface ocean beneath it retains more of its heat.
- All these changes make the ocean water lighter and so reduce the sinking in the 'conveyor belt', leading to a weaker AMOC. So the AMOC is very likely to weaken, but it's considered very unlikely that large, rapid changes in the AMOC, as seen in past times, will happen in the 21st Century.
- A weaker AMOC will bring less warm water northwards, and this will partly offset the warming effect of the greenhouse gases over Western Europe.

What is the role of Indian Ocean?

• As the Indian Ocean warms faster and faster, it generates additional precipitation. This draws more air from other parts of the world to the Indian Ocean, including the Atlantic.



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- With so much precipitation in the Indian Ocean, there will be less precipitation in the Atlantic Ocean. Less precipitation will lead to higher salinity in the waters of the tropical portion of the Atlantic because there won't be as much rainwater to dilute it.
- This saltier water in the Atlantic, as it comes north via AMOC, will get cold much quicker than usual and sink faster.

COASTAL REGULATION ZONE

• **CONTEXT:** Supreme Court has ordered the demolition of Maradu Apartments in Kerala for violation Coastal Regulation Zone (CRZ) norms.

• ABOUT:

Under the Environment Protection Act, 1986 Ministry of Environment and Forests (MoEF) issued notification in 1991, for regulation of activities in the coastal area.

 Coastal Regulation Zone (CRZ) is the area up to 500m from the high-tide line and a stage of 100m along banks of creeks, estuaries, backwater and rivers subject to tidal fluctuations.

 CRZ Rules govern human and industrial activity close to the coastline, in order to protect the fragile ecosystems near the sea.

The Union Ministry of Environment, Forest and Climate Change has notified the 2019 Coastal Regulation Zone (CRZ) norms, replacing the existing CRZ norms of 2011.

 The new CRZ norms aim to promote sustainable development based on scientific principles.

 Coastal Regulation Zones (CRZ) 1991 notification gave four fold classifications of coastal areas.

• **CRZ-1:** These are ecologically sensitive

Systematic violations

Coastal regulation zone notification has been amended 34 times in 27 years, not to protect the coast but to ppen it up for development

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1981 | Then prime minister Indira Gandhi issues advisory to costal states to take precautions while promoting development

1994 | CRZ 1991 amended to reduce no development zone (NDZ) from 100 m from high tide line to 50 m along tidal waterbodies; allows construction

1996 | Three committees – suggest regulated inclusion of activities, from ports, harbours to mining, groundwater extraction

2000 | D M Sukthankar Committee (I) recommends increase in Floor Space Index (FSI) for slum redevelopment

2002 | Amended to permit nonpolluting industries in CRZ of special economic zones; rare mineral mining allowed in NDZ

2004 | In the wake of tsunami, MoEF forms Swaminathan Committee to review and make recommendations

2008 | MoEF releases draft Coastal Management Zone (CMZ) Notification, 2008; parliamentary Committee says MoEF should not make haste in implementing it

2011 | MoEF issues CRZ notification 2011; a separate notification issued for Andaman and Nicobar and Lakshadweep

2013 | MoEF issues another Office Memorandum, asks coastal zone management authorities of states and union territories to submit plans by September

2015 | Sailesh Nayak Committee _ submits its report; CRZ 2011 amended to allow resorts, hotels in eco-sensitive areas of CRZ II; land reclamation allowed - **1991** | Coastal Regulation Zone (CRZ) Notification issued

1992 | MoEF under pressure from tourism lobby constitutes BB Vohra committee to examine regulation vis-a-vis tourism

1993-96 | The amendment is Challenged in the Suprement Court, which quashes the amendments, asks to maintain status quo

 1997 | Father saldanha Committee (II) recommends construction of dwelling units within 200 m in CRZ-III

 2001 | CRZ 1991 amended to permit projects by Department of Atomic Energy, laying of pipelines and conveying systems

2003 | Amended to mandate clearance from MoEF for projects costing over Rs. 5 crore; to allow sea links through CRZ-I; units for disposal of wastes and effluents 2005 | Committee submits its

report, recommends to safeguard livelihood of coastal people, promote conservation

 2009 | MoEF forms another committee under Swaminathan, which recommends to let CMZ Notification, 2008 lapse

2012 | MoEF issues office Memorandum, allowing projects in violation of CRZ norms to continue operation

 2014 | Karnataka, kerla and Maharashtra request amending CRZ 2011 keeping in view tourism and urbanisation needs

 - 2018 | Draft CRZ notification, 2018 made public for comments; union Cabinet approves it



areas as they help in maintaining the ecosystem of the coast. They lie between low and high tide line. Exploration of natural gas and extraction of salt are permitted

- **CRZ-2:** These areas are urban areas located in the coastal areas. Now under new coastal zone regulations 2018, the floor space index norms have been de-freezed.
- **CRZ-3:** rural and urban localities which fall outside the 1 and 2. Only certain activities related to agriculture even some public facilities are allowed in this zone
- CRZ-4: this lies in the aquatic area up to territorial limits. Fishing and allied activities are permitted in this zone. Solid waste should be let off in this zone. This zone has been changed from 1991 notification, which covered coastal stretches in islands of Andaman & Nicobar and Lakshdweep

Changes Brought about by CRZ Regulations 2019

- States found the 1991 Rules to be extremely restrictive. They complained that if
 applied strictly, the Rules would not allow simple things like building decent homes for
 people living close to the coast, and carrying out basic developmental works 2019 CRZ
 notification brought following changes:
- Two separate categories for CRZ-III (Rural) areas:
 - CRZ-III A: The A category of CRZ-III areas are densely populated rural areas with a population density of 2161 per square kilometre as per 2011 Census. Such areas have a No Development Zone (NDZ) of 50 meters from the High Tide Line (HTL) as against 200 meters from the High Tide Line stipulated in the CRZ Notification, 2011.
 - CRZ-III B The B category of CRZ-III rural areas have population density of below 2161 per square kilometre as per 2011 Census. Such areas have a No Development Zone of 200 meters from the HTL.
- No-development zone of 20 m for all islands close to the mainland coast, and for all backwater islands in the mainland.
- The government has decided to de-freeze the Floor Space Index and permit FSI for construction projects to do away with CRZ 2011 notification
- Tourism infrastructure like shacks, toilet blocks, change rooms, drinking water facilities, etc. permitted in coastal areas: The new norms permit temporary tourism facilities such in Beaches.
- To address pollution in Coastal areas, the treatment facilities have been made permissible in CRZ-I B area subject to necessary safeguards.

Criticism

- CRZ notification has been amended 34 times in 27 years, not to protect the coast but to open it up for development.
- Though exemption was made for the construction of the Navi Mumbai airport but the POSCO project had failed to take off due to other reasons. Projects of the Department of Atomic Energy, which plans to set up nuclear power plants near the coast, were also exempted which have serious environmental implication as we leant from the Fakushima nuclear disaster 2011.
- Large scale construction in CRZ has huge implications on Environment.

Conclusion

• A balanced approach to achieve developmental goals without hurting the environment should be the policy push.



GOLDEN TRIANGLE AND GOLDEN CRESCENT

• ABOUT:

Golden Triangle and Golden Crescent are the Asia's two largest principal illicit opium producing areas.

The Golden Crescent

- The Golden Crescent is located in Southwest Asia and consists of three contiguous countries of Pakistan, Afghanistan and Iran from East to West.
- Iran is the largest country, Afghanistan the only land locked country and Pakistan shares the maximum land boundaries in this region.
- This is the world's leading illicit opium producing region with the potential production of 5,020 metric tons, out of which Afghanistan alone has 4,950 metric tons of illicit opium production, followed by Pakistan with meager 70 metric tons in 2005 (UNODC, INCSR, 2006).
- Iran is not an opium producing country in this region but is more that of a transshipment country.



The Golden Triangle

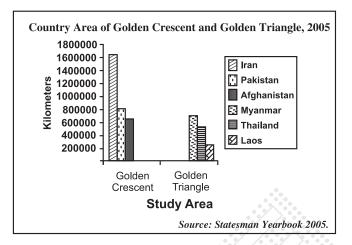
- The Golden Triangle is located in Southeast Asia comprising of three contiguous countries of Laos, Thailand and Myanmar from East to West.
- Myanmar is the largest country; Laos is the only landlocked country not only of the Golden Triangle but also of that of the entire Southeast Asia and Thailand has the largest coastline in the region.
- The Golden Triangle is the world's second largest illicit opium producing region with a potential production of 5,020 metric tons out of which, Myanmar itself has 30,900 metric tons followed by 10,000 metric tons in Laos and Thailand having the least production of 128 metric tons in 2005 (UNODC, INCSR, 2006). Laos is more that of trans-shipment country. Thailand and Myanmar are money laundering countries.

Comparative Geospatial Profile

• Golden Crescent is territorially larger than Golden Triangle.



• Both Golden Crescent and Golden Triangle are similar regarding the major coastal features such as seas, gulf and deltas. The coastally neighboring countries to Golden Triangle and Golden Crescent make trans-boundary narco-trafficking an international concern.



Concerns for India

- India is vulnerable to narcotic drug trafficking as it is located between two largest Opium producing regions of the world i.e. Golden Crescent in the west and Golden Triangle in the east.
- India is also vulnerable to human trafficking, smuggling and cross-border illegal immigration due to proximity to Golden Triangle and Golden Crescent.
- Trafficking of women and human smuggling in general have also become quite rampant across the India–Bangladesh and India-Nepal borders.
- It has become a challenge for India's security.

DIGITAL CENSUS

• **CONTEXT:** The home minister Amit Shah said that a mobile app will be used for the first time in the 2021 census.

• ABOUT

Census

- The Indian Census is the largest single source of a variety of statistical information on different characteristics of the people of India.
- The first census was conducted in India non-synchronously in different parts in 1972.
- The responsibility of conducting the decennial Census rests with the Office of the Registrar General and Census Commissioner, India under Ministry of Home Affairs, Government of India.

What is National Population Register (NPR)?

- The objective of the NPR is to create a comprehensive identity database of every usual resident in the country. The database would contain demographic as well as biometric particulars.
- It is being prepared at the local (Village/sub-Town), sub-District, District, State and National level under provisions of the Citizenship Act 1955 and the Citizenship (Registration of Citizens and issue of National Identity Cards) Rules, 2003.
- It is mandatory for every usual resident of India to register in the NPR.
- A usual resident is defined for the purposes of NPR as a person who has resided in a local area for the past 6 months or more or a person who intends to reside in that area for the next 6 months or more.



Utility of census:

- Census data helps in future planning of the country, especially for development initiatives and welfare schemes.
- The population census provides the basic data for administrative purposes. One of the most basic of the administrative uses of census data is in the demarcation of constituencies and the allocation of representation on governing bodies.
- The population census provides indispensable data for scientific analysis and appraisal of the composition, distribution and past and prospective growth of the population.
- The census data has many important uses for individuals and institutions in business and industry.

About Digital census 2021:

- As all previous censuses in India have been paper-based. A mobile app will be used in Census 2021. It will be a transformation from paper census to digital census.
- The 2021 census is the 16th Indian census.
- The government was set to spend ₹12,000 crore on the 2021 Census as well as for the preparation of the National Population Register (NPR).
- This mammoth nationwide exercise will be carried out in 16 languages.
- The census will have its reference date as March 1, 2021, but for snow-bound Jammu and Kashmir, Himachal Pradesh and Uttarakhand it will be October 1, 2020.

Advantages of a Digital Census/paperless census:

- A paperless census will drastically reduce the storage space for physical files.
- As all data will be stored electronically, the government will save up on substantial amount of physical storage space.
- Digital census will reduce the environmental burden by saving the trees required for paper manufacturing industries.
- The use of technology in census will also help pave the way for other technologies, such as artificial intelligence and Internet of Things, to take root in India.
- It will also help cut the project cost of census.
- As the records mentioned on pages could easily be tempered now going digitally, any tampering with the data will invite punishment under the Information Technology Act, 2000.

Disadvantages/challenges of Digital Census:

- Digital data is more prone to the piracy. The data collected digitally can be used by various private agencies for personal use if breached.
- There will be serious security concerns if the breached data be used by our enemy countries.
- It would be difficult to register digitally for people who are digitally illiterate.

PANDIT DEENDAYAL UPADHYAYA

• **CONTEXT:** 103rd birth anniversary of Pandit Deendayal Upadhyaya.

• ABOUT

Deendayal's personal life:

- Deendayal Upadhyaya was born in a village near the Farah town in Mathura district called Chandrabhan, which later went on to be named after him as "Deendayal Dham".
- His father's name was Bhagwati Prasad, an astrologer, and his mother Rampyari was a religious woman.



• Both his parents died when he was only eight years old and he was then brought up by his maternal uncle and aunt who took care of him and his education as well.

Education of Deendayal Upadhyaya:

- He completed his intermediate education at Birla College, Pilani, and his Bachelors in Arts at Sanatan Dharma College, Kanpur, in 1939. At this college, he came into contact with the Rashtriya Swayamsevak Sangh (RSS) through his classmate Baluji Mahashabde.
- He further joined St John's College in Agra to pursue a master's degree in English literature, but didn't complete it.

Upadhyaya as a writer:

 Deendayal Upadhyaya first started the monthly "Rashtra Dharma" from Lucknow in the 1940s, meant for spreading the ideology of Hindutva nationalism.

Deendayal Upadhyayas Literary:

- Samrat Chandragupta (1946)
- Jagatguru Shankaracharya (1947)
- Akhand Bharat Kyon? (1952)
- Bharatiya Arthniti: Vikas Ki Disha (1958)
- The Two Plans: Promises, Performances, Prospects (1958)
- Rashtra Jivan Ki Samasyayen (1960)
- Devaluation: A Great Fall (1966)
- Political Diary (1968)
- Rashtra Chintan
- Integral Humanism
- Rashtra Jivan Ki Disha
- Later on, he also started the weekly "Panchjanya" and then the daily "Swadesh".
- He edited the weekly and daily from Kanpur itself.
- He wrote a Hindi drama on Chandragupta Maurya, a biography of Shankaracharya, and translated a Marathi biography of Hedgewar.

Deendayal and the Bharatiya Jana Sangh:

- After meeting the RSS founder KB Hedgewar in 1942, he joined RSS as a full-time worker, called Pracharak.
- In 1951, Shyama Prasad Mukherjee founded the Bharatiya Jana Sangh.
- Deendayal was seconded to the party by the RSS, bestowed with the responsibility of moulding it into a genuine member of the 'Sangh Parivar'.
- Then, he was appointed as General Secretary of the party's Uttar Pradesh branch, and later as the all-India General Secretary.
- He remained the general secretary for 15 long years and also contested for Lok Sabha from Uttar Pradesh, but did not get elected as he failed to gain enough political traction.

Upadhyaya's ideology for India:

- Upadhyaya devised the political philosophy of Integral Humanism, which advocates the simultaneous and integrated program of the body, mind and intellect and soul of each human being.
- This philosophy of his is a synthesis of the material and the spiritual; the individual and the collective.



- For India, he visualised a decentralised polity and self-reliant economy with the village being the core basis which thought of India as an independent nation which cannot rely upon western concepts like individualism, democracy, socialism, communism or capitalism.
- Deendayal was of the view that India is in urgent need of a 'fresh breeze' to get rid of the post-independence westernisation.
- He felt Indian intellect had been suffocated, and Indian polity was no more rooted in the traditions of our ancient culture.
- Deendayal, just like all strong leaders, believed in the concept of Swaraj (Self Governance).

Deendayal's death: A mystery

- A pool of doubt surrounds the mysterious death of this political leader.
- Travelling in a train to Patna, a year after he was elected in 1967 as the president of the Jana Sangh, he was allegedly murdered.
- 10 minutes after the train's arrival at Mughal sarai station, his body was found near it clutching a five-rupee note in his hand.
- Hence, the problematic case has been looked into by several judges and has seen demands made by several MPs, politicians and family members to be reopened.

Upadhyaya's eternal legacy:

- Ever since BJP came to power under PM Modi, several public institutions, government schemes, and recently a railway station, were renamed after him.
- A Delhi road/marg has been renamed as Deen Dayal Upadhyaya Marg.
- An institute was established as Deen Dayal Research Institute which deals with queries on Upadhyaya and his works.
- Mughalsarai junction in UP where Deendayal's body was found has been renamed as Deen Dayal Upadhyaya junction.

Several Schemes in the name of Deendayal Upadhyaya:

- Deendayal Antyodaya Yojana (DAY).
- Deendayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) .
- Pandit Deendayal Upadhyaya Shramev Jayate Karyakram.
- Deendayal Upadhyaya Swaniyojan Yojana (DUSY).
- Deendayal Upadhyaya Gram Jyoti Yojana.

CARIBBEAN COMMUNITY AND COMMON MARKET (CARICOM)

CONTEXT: All about Caribbean Community and Common Market (CARICOM) and recent developments such as its support for India in getting a membership in UNSC
 ABOUT
 The Caribbean Community and Common Market (CARICOM) is a group of twenty developing countries in the Caribbean that have come together to form an economic and political community that works together to shape policies for the region and encourages economic growth and trade.
 Seat of Secretariat: Georgetown, Guyana
 Fifteen of these countries are full-fledged members of the community while five of them only retain associate member status.



- The fifteen full-time countries are Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, Saint Kits and Nevis, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago. The associate members are Anguilla, Bermuda, British Virgin Islands, Cayman Islands and Turks and Caicos.
- These nations have collectively joined together to expand their trade and economic relations internationally, including further development of activity in international markets.

History

- CARICOM was formed in 1973 after the founders had enacted the Treaty of Chaguaramas.
- The Caribbean Community and Common Market was established to replace the Caribbean Free Trade Area which had failed in its mission to develop policies in the region pertaining to labor and capital.

Pillars of Integration

- To improve standards of living and work
- Full employment of labor and other factors of production
- Accelerated, coordinated and sustained economic development and convergence
- Expansion of trade and economic relations with Third States
- Enhanced levels of international competitiveness

- Organization for increased production and productivity
- Achievement of a greater measure of economic leverage
- Effectiveness of Member States in dealing with Third States, groups of States and entities of any description
- The enhanced coordination of Member States' foreign and foreign economic policies and enhanced functional cooperation.

FINANCIAL ACTION TASK FORCE ON MONEY LAUNDERING

• CONTEXT:	Pakistan on Monday submitted detailed answers to 125 questions posed by the Financial Action Task Force (FATF) on moves taken by it to strengthen anti-money laundering and combat financing of terrorism, as Islamabad seeks to move out of the FATF Grey list.	
• ABOUT	• The FATF was created in 1989 at the behest of the G7 and is headquartered in Paris.	
	The Financial Action Task Force (FATF) is an intergovernmental organization that designs and promotes policies and standards to combat financial crime.	
	• Recommendations created by the Financial Action Task Force (FATF) target money laundering, terrorist financing, and other threats to the global financial system.	
	Features	
	 The FATF is therefore a "policy-making body" which works to generate the necessary political will to bring about national legislative and regulatory reforms in these areas. 	
	• There are 37 members of the Financial Action Task Force, including the European Commission and the Gulf Cooperation Council.	
	• To become a member, a country must be considered strategically important (large population, large GDP, developed banking and insurance sector, etc.), must adhere	



to globally accepted financial standards, and be a participant in other important international organizations.

- Once a member, a country or organization must endorse and support the most recent FATF recommendations, commit to being evaluated by (and evaluating) other members, and work with the FATF in the development of future recommendations.
- A large number of international organizations participate in the FATF as observers, each of which has some involvement in anti-money laundering activities.
- These organizations include Interpol, the International Monetary Fund (IMF), Organization for Economic Cooperation and Development (OECD), and World Bank.

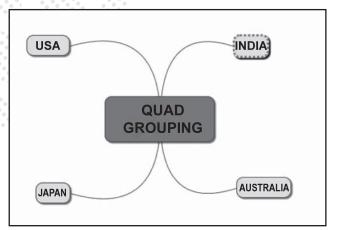
Grey List: Those countries which are considered as the safe heaven for supporting terror funding and money laundering are included in this list. The inclusion in this list is not as severe as black listed. Grey list is a warning given to the country that it might come in Black list.

QUAD GROUPING

• **CONTEXT:** A year after India refused to upgrade its Quadrilateral grouping with the US, Australia and Japan to the level of Foreign Secretaries, the Foreign Ministers of the four countries are scheduled to meet on the sidelines of the UN General Assembly meeting in New York.

• ABOUT:

- Indo-Pacific Quadrilateral also known as Quad Group is a closed group consisting of India, Australia, Japan & USA.
- Japan pioneered the initiative in 2007 as a coalition of maritime democracies.
- First Official quad talks were held in Manila, Philippines in 2017
- Securing a rules-based global order, liberal trading system and freedom of navigation are believed to be the guiding principles.
- It aims to contain a rising China and its "predatory" economic and trade policies.



- The purpose is also to provide alternative debt financing for countries in the Indo-Pacific region.
- Report on stability was recently launched by four think tanks from the Quad countries at the Vivekananda International Foundation (VIF).
- The report was published by Quadripartite Commission on Indian Ocean Regional Security, which put out a series of 20 policy recommendations for stability in the Indian Ocean Region (IOR).
- It recommended that the four countries should work to **oppose the establishment of permanent Chinese military bases in the IOR.**

Challenges

- Reluctance shown by Australia in Quad activities due to the Chinese pressure.
- India also rejected Australia's request to participate in the military exercises as well in the foreign secretary level talks after an informal summit between Chinese President Xi Jinping and Prime Minister Narendra Modi at Wuhan.



Conclusion

• The Quad has potential, but first, India must develop a strategic vision when it comes to China.

ALL INDIA SURVEY ON HIGHER EDUCATION

• **CONTEXT:** Human Resource Development (HRD) Minister released the All India Survey of Higher Education (AISHE) report for 2018-19.

- ABOUT
 The survey, undertaken as an annual, web-based, pan-India exercise on the status of Higher Education since 2010-11, covers all the Higher Educational Institutions in the country.
 - The survey collects data on several parameters like teachers, student enrolment, programmes, examination results, education finance, infrastructure, etc.
 - The data collected under these parameters come handy for making **informed policy** decisions and conducting research in education development.
 - The survey is **building a sound database**, which is getting updated annually as per information submitted by the institutions

Highlights of AISHE Report 2018-19

- Total enrolment in higher education has been estimated to be 37.4 million with 19.2 million male and 18.2 million female. Female constitute 48.6% of the total enrolment.
- Gross Enrolment Ratio (GER) in Higher education in India is 26.3%, which is calculated for 18-23 years of age group. GER for male population is 26.3% and for females, it is 26.4%. For Scheduled Castes, it is 23% and for Scheduled Tribes, it is 17.2% as compared to the national GER of 26.3%.
- UP and Karnataka have more female enrolment in higher education and the ratio of male students is higher than females on almost every level, except Certificate, Post Graduate and M.Phil. The female enrolment in Karnataka and UP is 50.04% and 50% respectively.
- Maharashtra has recorded the second-highest student enrolment with roughly 54.95% male and 45.05% females.
- In Rajasthan, male enrollment number is higher as compared to the females.
- UG level student enrolment is 51% males and 49% females across India.
- The top 6 States having highest student enrollment are UP, Tamil Nadu, Maharashtra, Rajasthan, Karnataka and West Bengal. However, when it comes to the total number of institutes, the state-wise ranking is different with UP (8077) at the top followed by Maharashtra (6662), Karnataka (5028), Rajasthan (3723), Andhra Pradesh (3540) and Tamil Nadu (3443).
- The above mentioned 6 states with the highest student enrolment have roughly 54.23% of the total student enrolment in India
- Remaining 30 States (including UTs) have only 25.76% of the total student enrolment.
- The survey covers all institutes of higher education in India, and the institutes are categorised in 3 broad categories such as College, University and Stand-alone institutes (offering Paramedical, Diploma, Hotel Management and Catering courses).
- There are a total of 993 Universities, 39931 Colleges and 10725 Stand Alone Institutions listed on the AISHE web portal and out of that, 962 Universities, 38179 Colleges and 9190 Stand Alone Institutions have responded during the survey. 298 Universities are affiliating.
- More male teachers in Higher Educational Institutions (HEIs) in India than females, with the lowest gender proportion in Bihar.



- 4,16,299 is the total number of teachers out of which about 57.8 per cent are male teachers and 42.2 per cent are female teachers. In Bihar, 78.97 per cent are male teachers and 21.03 per cent are females.
- Jharkhand has 69.8 per cent male teachers and 30.2 per cent female teachers.
- UP has 32.3 per cent, female teachers.
- At All India level, there are just 73 female teachers per 100 male teachers.

Concerns

- Though female enrolment has increased but ratio of female to male teacher ratio in higher education is not favourable.
- In last 5 years, the GER of the Muslims and other minority communities has been slow. From 4.15 per cent GER of the Muslim youth (age group of 18-23 years) in 2012-13, it is just 4.90 per cent in 2016-17

ZONAL COUNCILS

• **CONTEXT:** Union Minister for Home Affairs, Amit Shah chaired the 29th meeting of the Northern Zonal Council held at Chandigarh.

• ABOUT: What are Zonal councils?

- The Zonal Councils are the statutory (and not the constitutional) bodies. They are established by an Act of the Parliament, that is, States Reorganisation Act of 1956.
- The act divided the country into five zones (Northern, Central, Eastern, Western and Southern) and provided a zonal council for each zone.
- North-Eastern Council:
 - In addition to the above Zonal Councils, a North-Eastern Council was created by a separate North-Eastern Council Act of 1971.
 - Its members include Assam, Manipur, Mizoram, Arunchal Pradesh, Nagaland, Meghalaya, Tripura and Sikkim.

The factors that have been taken into account during formation of Zonal Councils:

- The natural divisions of the country.
- The river systems and means of communication.
- The cultural and linguistic affinity.
- The requirements of economic development, security and law and order.

Members of the Zonal council:

- Home minister of Central government.
- Chief Ministers of all the States in the zone.
- Two other ministers from each state in the zone.
- Administrator of each union territory in the zone.
- The home minister of Central government is the common chairman of the five zonal councils.
- Each chief minister acts as a vice-chairman of the council by rotation, holding office for a period of one year at a time.
- Advisers One person nominated by the Planning Commission for each of the Zonal Councils, Chief Secretaries and another officer/Development Commissioner nominated by each of the States included in the Zone.



 Union Ministers are also invited to participate in the meetings of Zonal Councils depending upon necessity.

What makes Zonal Councils different from institutions like the National Development Council, Inter State Council?

- Zonal Councils are regional fora of cooperative endeavour for States linked with each other economically, politically and culturally.
- Being compact high level bodies, specially meant for looking after the interests of respective zones, they are capable of focusing attention on specific issues taking into account regional factors, while keeping the national perspective in view.
- The Zonal Councils provide an excellent forum where irritants between Centre and States and amongst States can be resolved through free and frank discussions and consultations.

Objectives of Zonal Councils:

- Bringing out national integration.
- Arresting the growth of acute State consciousness, regionalism, linguism and particularistic tendencies.
- Enabling the Centre and the States to co-operate and exchange ideas and experiences.
- Establishing a climate of co-operation amongst the States for successful and speedy execution of development projects.

Functions of the Zonal Councils:

- Each Zonal Council is an advisory body and may discuss any matter in which some or all of the States represented in that Council, or the Union and one or more of the States represented in that Council, have a common interest and advise the Central Government and the Government of each State concerned as to the action to be taken on any such matter.
- In particular, a Zonal Council may discuss, and make recommendations with regard to:
 - Any matter of common interest in the field of economic and social planning.
 - Any matter concerning border disputes, linguistic minorities or inter-State transport.
 - Any matter connected with or arising out of, the re-organization of the States under the States Reorganisation Act.

	Zonal Councils at a Glance	
Name	Members	Headquarters
1. Northern Zonal Council	Jammu and Kashmir, Himachal Pradesh, Haryana, Punjab, Rajasthan, Delhi and Chandigarh	New Delhi
2. Central Zonal Council	UttarPradesh, Uttarakhand, Chhattisgarh, and Madhya Pradesh	Allahabad
3. Eastern Zonal Council	Bihar, Jharkhand, West Bengal and Odisha	kolkata
4. Western Zonal Council	Gujarat, Maharastra, Goad, Dadra and Nagar Haveli and Daman and Diu	Mumbai
5. Southern Zonal Council	Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Kerala and Puducherry	Chennai



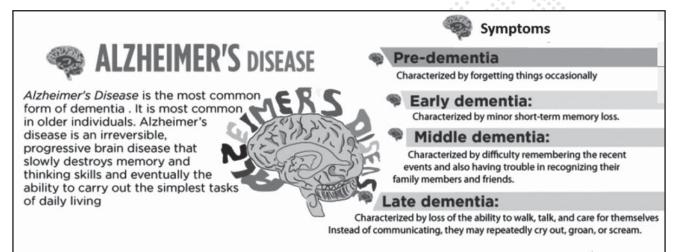
• ABOUT:

ALZHEIMER'S DISEASE

• **CONTEXT:** September 21 of each year is observed as World Alzheimer's Day.

What is Alzheimer's disease?

- Alzheimer's disease is an irreversible, progressive brain disease that slowly destroys memory and thinking skills, and eventually, the ability to carry out the simplest tasks of daily living.
- Alzheimer's disease **is the most common form of dementia** which is more common in older individuals.
- Dementia is a disorder characterized by serious loss of cognitive ability in a previously unimpaired person.
- Alzheimer is named after a German psychiatrist Louis Alzheimer in 1906.



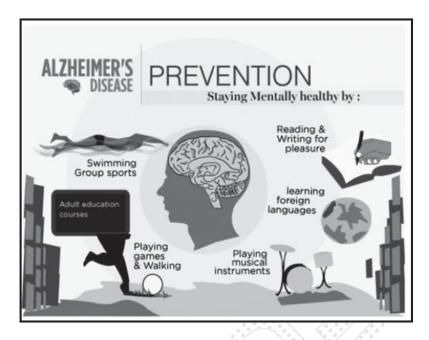
What causes Alzheimer's disease?

- Scientists have not yet understood the exact cause of Alzheimer's disease. It is postulated to have multifactorial etiology like:
- Genetic:
 - The Apolipoprotein E (ApoE) gene is implicated in Alzheimer's disease. This gene has several forms. One of them, ApoE ε4, seems to increase a person's risk of getting the disease.
 - However, carrying the ApoE ε4 form of the gene does not necessarily mean that a person will develop Alzheimer's disease, and people carrying no ApoE ε4 can also develop the disease.
 - Scientists around the world are searching for other genes that may increase a person's risk for developing Alzheimer's disease.
- **Environmental/ Lifestyle factors:** Diseases like heart disease, stroke, high blood pressure, diabetes, obesity, hyperlipidemia etc. have also shown to be linked with the Alzheimer's disease.

What are the preventive measures?

• There is no definitive evidence to support that any particular measure is effective in preventing. However, there are certain steps that could be taken which may help to delay the onset of dementia such as staying mentally healthy.





Recent Research:

- The scientists at National Brain Research Centre (NBRC) have identified the link between depleted levels of Glutathione in the brain and the Alzheimer's disease.
- Antioxidant Glutathione exists in two forms i.e. Extended and Closed. According to the findings the closed form of Glutathione depletes significantly in those parts of the brain that are responsible for memory planning and decision making in case of Alzheimer's Diseases.
- Monitoring Glutathione levels can offer a way to detect signs of disease and therapies can be devised to keep the illness at the bay.
- According to the scientists the damage can be prevented by giving a non-invasive glutathione therapy.

PRESCRIPTION FOR PLANT-BASED DIET OVERLOOKS VITAMIN B12 DEFICIENCY

• CONTEXT:

While an EAT-Lancet study had found that the world must shift to plant-based diets to meet the SDGs, this vitamin is only found in animal meat and to a lesser extent in milk products. Thus, not seems to be a viable option.

• ABOUT:

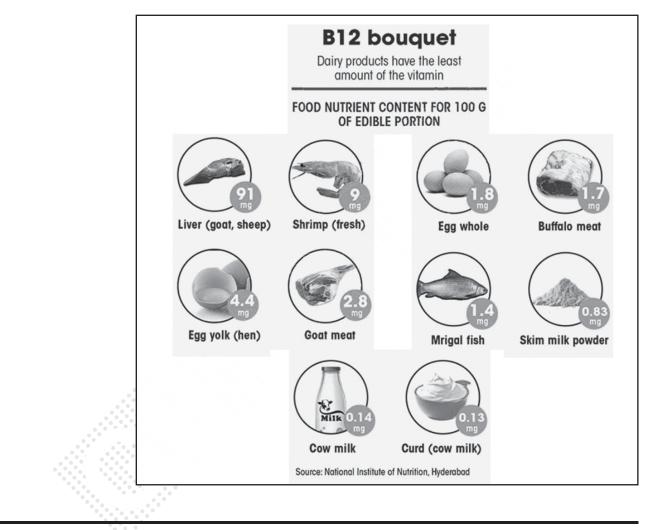
- A water-soluble vitamin, B12 is the most critical element in the metabolism of every cell in the human body. Deficiency can cause anemia, weakness of limbs and dementia.
- Pregnant women who lack this vitamin can give birth to brain-damaged babies, which can lead to autism.

Analysis

- India doesn't have nation-wide data on B12 deficiency. But there is wide acceptance among the medical fraternity that a large number of people as many as those suffering from vitamin D deficiency have this problem.
- About 47 per cent people in northern India are vitamin B12 deficient. Thus, being an endemic problem
- This vitamin is only found in animal meat and to a lesser extent in milk products.



- For India, this debate has greater relevance as about 30 per cent of the population is vegetarian, according to an assessment of the National Sample Survey Office in 2014. An Indian eats roughly 4 kg of meat per year, as compared to the global average of 43 kg, according to the Food and Agriculture Organization.
- But there is another layer to the curious case of B12 deficiency in India. Even the nonvegetarian population is facing this deficiency. Most non-vegetarian Indians largely consume chicken, which has very little amount of vitamin B12 as compared to mutton or sea food
- The government should also think about fortification as a possible panacea. The easiest solution is to inject the vitamin; a one course injection can suffice for a year.



ANALGESIC

• ABOUT

- An analgesic or painkiller is any member of the group of drugs used to achieve analgesia, relief from pain.
- Analgesics are medicines that are used to relieve pain. They are also known as painkillers or pain relievers. Technically, the term analgesic refers to a medication that provides relief from pain without putting you to sleep or making you lose consciousness.
- Two of the most common groups of pain killers are nonsteroidal anti-inflammatory drugs (NSAIDs) and opioids (narcotics).



ENDOSULFAN

• ABOUT:

- Endosulfan is an off-patent organochlorine insecticide and acaricide that is being phased out globally.
- Endosulfan became a highly controversial agrichemical due to its acute toxicity, potential for bioaccumulation, and role as an endocrine disruptor.
- Because of its threats to human health and the environment, a global ban on the manufacture and use of endosulfan was negotiated under the Stockholm Convention
- Endosulfan has been used in agriculture around the world to control insect pests including whiteflies, aphids, leafhoppers, Colorado potato beetles and cabbage worms.

GANGA DATA COLLECTOR APP

• ABOUT:

- The app will provide field researchers with a complete data entry solution to monitor the aquatic population in the river.
 - DEHRADUN BASED Dehradun based Wildlife Institute of India (WII) has launched a mobile application "Ganga Data Collector" under the "Biodiversity and Ganga Conservation" project initiated by the National Mission for Clean Ganga (NMCG) of Union Ministry of Jal Shakti.
 - The Ganga basin covers 11 states including Uttarakhand, Uttar Pradesh, Madhya Pradesh, Rajasthan, Haryana, Himachal Pradesh, Chhattisgarh, Jharkhand, Bihar, West Bengal and Delhi.
 - In the first phase, training will be given to volunteers and staff in five Ganga states including Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal where Ganga stretches over 2,200-km. In the second phase, training will be given to the staff of the other six states of the Ganga basin.

GLOBAL GOALKEEPER AWARD 2019

• ABOUT

- PM Narendra Modi conferred Global Goalkeeper award by Bill and Melinda Gates Foundation
- PM Modi received the international award for Swachh Bharat Abhiyan.
- The Goalkeeper awards felicitate change makers around the world for their contributions toward meeting the UN's Sustainable Development Goals (SDGs).

MOSAIC MISSION

• ABOUT:

- The Multidisciplinary drifting Observatory for the Study of Arctic Climate expedition is a one-year-long expedition into the Central Arctic, planned to take place from 2019 to 2020.
- For the first time a modern research icebreaker will operate in the direct vicinity of the North Pole year round, including the nearly half year long polar night during winter.
- During its one-year-long journey, the central expedition ship, the research icebreaker Polarstern from Germany's Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI), will be supported and resupplied by the icebreakers Akademik Fedorov and Admiral Makarov (Russia), Oden (Sweden) and Xue Long II (China).
- The results of MOSAiC mission will contribute to enhance understanding of the regional and global consequences of Arctic climate change.



• It will be helpful in understanding the reasons behind the sea-ice loss and improve weather and climate predictions.



NEW SPECIES OF FROG DISCOVERED IN ARUNACHAL

• ABOUT:

- A team of scientists from the University of Delhi and Zoological Survey of India (ZSI) discovered a new species of frog in Arunachal Pradesh and named it Microhyla eos.
- Microhyla are a group of narrow-mouthed frogs (subfamily Microhylinae) that is primarily and widely distributed in Asia. Commonly known as 'Rice Frogs' or 'Chorus Frogs', the genus currently comprises of 49 recognised species.
- The new frog was discovered from riparian habitats in a primary evergreen forest in the Namdapha Tiger Reserve of the state, which is also the eastern-most protected area in the country.
- Since Arunachal Pradesh is popularly known as 'the land of rising sun' or 'the land of dawn-lit mountains', the new species has been named as eos, after the mythological Greek goddess of dawn.



POLLINATOR SANCTUARY: A NEW SUSTAINABLE SOLUTION MODEL FROM CANADA

• ABOUT:

• The concept could not only help in providing forage, shelter and nesting places for local bees and birds, but also play a pivotal role in conserving local wildlife



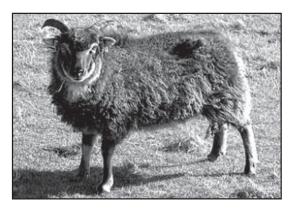
- Pollinator insects play a huge role in achieving cross pollination in a wide diversity of crops and plants that are important to both, human ecology and economy.
- Three distinct global industries namely agriculture, forestry and apiculture are directly and indirectly dependent upon pollination services provided by biological agents or vectors such as different species of insects, molluscs (such as snails and slugs), birds (like humming bird species) and mammals (such as bats).
- Insects such as bees, moths and butterflies, certain species of flies, beetles, wasps and ants play a significant important role in cross pollination in various important crops and plant species.
- Among insects, bees play the most important role in providing pollination services to a
 wide diversity of plants on which we are dependent for maintaining the stability of both
 our ecosystem as well as our global economy.
- A pollinator sanctuary can prove to be a powerful technology in the field of pollinator insect conservation, with special emphasis on honey bees and native bees. The Pollinator Sanctuary project is funded by the well-respected provincial funding programme titled 'Canadian Agricultural Partnership' to investigate a new sustainable and innovative technology platform for bee conservation.
- Some of the causal factors cumulatively adding to the global bee decline include:
 - Industrial agricultural practices like overuse of pesticides and fertilisers
 - High level of pollution
 - Rapid change in our traditional land use patterns

- Climate change
- Colony collapse disorder
- Rapid rise in bee parasitic diseases
- Lack of suitable bee habitats and nutrition due to loss of their host plant species for adequate supply of nectar and pollen throughout the season

SOAY SHEEP

• ABOUT:

- The Soay sheep is a breed of domestic sheep from Scotland.
- It has descended from a population of feral sheep on the 250 acre island of Soay in the St. Kilda Archipelago.
- Name of these animals is derived from the island of Soay. The island of Soay is about 65 kilometers from the Western Isles of Scotland.
- The breed is one of the Northern European short-tailed sheep breeds.



• It has been called the only living example of the small, primitive sheep which inhabited the British Isles before the coming of the Norsemen and the Romans.

SAGITTARIUS A

• ABOUT:

• Sagittarius A is a bright and very compact astronomical radio source at the center of the Milky Way, near the border of the constellations Sagittarius and Scorpius.



CURRENT AFFAIRS WEEKLY

Gescore

- It is likely the location of a supermassive black hole, similar to those generally accepted to be at the centers of most if not all spiral and elliptical galaxies.
- Astronomers have used NASA's Chandra X-ray Observatory to take a major step in understanding why material around Sgr A* is extraordinarily faint in X-rays.
- Sgr A* is one of very few black holes in the universe where we can actually witness the flow of matter nearby.

SHIFTING OF TIGERS

• ABOUT:

- With the city zoo having more number of tigers than it can accommodate, the Aurangabad civic body in Maharashtra has decided to shift two of these striped animals to a zoo in Mumbai
- The total number of tigers in the zoo here has gone up to 12, but its capacity is to accommodate only eight such carnivores
- It's a tiger-birds exchange; birds would be exchanged from one zoo to other against 2 tigers

WORLD DIGITAL COMPETITIVENESS RANKING 2019

• ABOUT:

- IMD World Digital Competitiveness Ranking measures the capacity and readiness of 63 economies to adopt and explore digital technologies as a key driver for economic transformation in business, government and wider society.
- India has jumped four places from 48th place in 2018 to 44th rank in 2019 in World Digital Competitiveness Ranking (WDCR)
- To evaluate an economy, WDCR examines three factors:
- Knowledge: the capacity to understand and learn the new technologies;
- Technology: the competence to develop new digital innovations;
- Future readiness: the preparedness for the coming developments.
- The US was ranked as the world's most digitally competitive economy, followed by Singapore in second place.

