

# CONTENTS

S. No.	Topic	Page No.
<b><u>I. POLITY &amp; GOVERNANCE</u></b>		
1.	Himalayan State Regional Council	1
2.	Naxalism and Urban Naxalism	1
3.	Incredible India Tourist Facilitator Certification	2
4.	Issues related to the judicial over reach	2
5.	Aadhaar Data Security	3
<b><u>II. SOCIAL JUSTICE</u></b>		
6.	Status of Nutrition in India	4
7.	Slow progress of direct benefit transfer scheme for TB patients	5
8.	#MeToo Campaign	6
9.	Global fight on Malaria Stalled	7
<b><u>III. ECONOMY</u></b>		
10.	NSE goBID	7
11.	U.K. India Business Council's Ease of Doing Business Report	7
12.	Ease of Doing Business Grand Challenge	8
13.	City Gas Distribution (CGD) Projects	8
<b><u>IV. ENVIRONMENT</u></b>		
14.	Eco-Sensitive Zones	9
15.	Global Stocktake	10
<b><u>V. INTERNATIONAL RELATIONS</u></b>		
16.	India for inclusive Indo-Pacific region	11
17.	ASEAN and QUAD	11
18.	India and China Bonhomie	12
19.	India-Maldives Relations	13
20.	Asia-Pacific Economic Cooperation	14
<b><u>VI. SCIENCE &amp; TECHNOLOGY</u></b>		
21.	China's 'artificial sun': Experimental Advanced Superconducting Tokamak (EAST)	14
22.	GROWTH- India Telescope	15
23.	World's standard definition of kilogram Redefined	16
<b><u>VII. PRELIMS/MISCELLANEOUS</u></b>		
24.	India's First Elephant Hospital Opens in Mathura	17
25.	New species of Indian horned frogs from Himalayan Regions	17

26. Russian Igla-S Missile System	17
27. WCCB wins Asia Environment Enforcement Awards	17
28. Kg gets a new definition	17
29. World Toilet Day	18
30. Qaumi Ekta Week	18
<b>Questions</b>	<b>19</b>



## I. POLITY & GOVERNANCE

### TOPIC: GS II, ASPECTS OF GOVERNANCE

#### 1. Himalayan State Regional Council

**Source:** The Hindu

**Why in news:**

Himalayan State Regional Council (HSRC) for the Sustainable Development of Indian Himalayan Region has been constituted by NITI Aayog recently.

**About HSRC:**

- Due to the uniqueness of the Himalayas and specific challenges for sustainable development, five working groups were constituted by NITI Aayog earlier on different thematic areas to prepare a roadmap for action.
- The HSRC has been constituted to review and implement identified action points based on the reports of these five Working Groups.
- **Composition:**
  1. Chairman-Niti Aayog Member
  2. Chief Secretaries of the Himalayan States
  3. Secretaries of key Central Ministries
  4. Senior officers of NITI Aayog
  5. Special invitees.
- **Functions:**
  1. Act as nodal agency for the sustainable development in the 12 states of Himalayan Region.
  2. Monitoring the implementation of action points for Central Ministries, Institutions and Himalayan State Governments in Indian Himalayan Region.
  3. Development projects include:
    - (a) River basin development
    - (b) Spring mapping and revival across Himalayas in phased manner for water security.
    - (c) Developing, implementing and monitoring tourism sector standards.
    - (d) Strengthening skill & entrepreneurship.
- **Importance:** It is important for the holistic development of the Himalayan region and it can become a platform in ensuring the coordination and convergence of the developmental projects in the Himalayan region.

### TOPIC: GS III, INTERNAL SECURITY

#### 2. Naxalism and Urban Naxalism

**Source:** The Hindu

**Why in news:**

Recently, naxal attacks increased in Chhattisgarh elections and it was alleged that the incident was being controlled by the urban naxals.

**Naxalism in India and its changing trends:**

- This movement started in 1967 in a small village named Naxalbari in West Bengal when a group of peasants under the leadership of Charu Mazumdar, Kanu Sanyal and Jangal Santhal adopted armed struggle to redistribute land to the landless.
- Initially, this movement had strong ideological inclinations but now it is totally different as it is mostly aimed at perpetuating a parallel government, creating reign of terror and completely aloof from its earlier aim of ensuring justice for the downtrodden.
- It is present in the states of Chhattisgarh, Jharkhand, Odisha, Bihar, West Bengal, Andhra Pradesh, Telangana, Maharashtra, Madhya Pradesh and Uttar Pradesh in varying degrees.

**Urban Naxalism:**

- Ministry of Home affairs, in its report titled "Urban Naxalism: Growing Menace and Remedies has described Urban Naxalism as an old maoist strategy to focus on urban centre for leadership, organize masses in urban areas through democratic means, build a united front and engage in military tasks such as providing personnel, material and infrastructure.
- Most of these organizations are led by well educated intellectuals with a firm belief in the Maoist insurgency doctrine.
- **Functions:**
  1. Recruitment of professional revolutionaries.
  2. Raising funds for the insurgency.
  3. Creating urban shelters for underground cadres.
  4. Providing legal assistance to arrested cadres.

**Misuse of the term Urban Naxalism:**

- It curbs dissent and criminalizes it.
- It mobilizes the society on ideological lines.
- Any opponents can be arrested under the name of urban naxals.

**Government approach in tackling Naxalism:**

**A. Security Aspect:**

- Security Related Expenditure (SRE) Scheme, under which the central Govt. reimburses to the State

Governments of 11 LWE affected States SRE of 90 districts relating to training and operational needs of security forces, ex-gratia payment to the family of civilians/ security forces killed in LWE violence etc.

- Construction of Fortified Police Stations in the LWE affected States.
- The MHA has been tasked with the monitoring of program in 35 LWE affected districts.

#### **B. Development related aspect:**

- Education: setting up Kendriya Vidyalayas, upgrading the school infrastructures and at the same time enhancing connectivity in the left wing extremism (LWE) affected regions.
- Poverty Reduction: With the help of PDS and Antodaya Anna Yojana etc. Increasing MSP for important regional agricultural products like Tendu leaves as most of the tribal people are engaged in its business.
- Improving Rural Health with the help of schemes like Aushman Bharat and Ujjawala Yojana.
- LWE mobile tower project for improving 4G and 3G connectivity.

#### **Issues related to the development of the LWE affected region:**

- Planning Commission had pointed out in 2008 that “the benefits of the development programmes have been disproportionately cornered by the dominant section at the expense of the poor, who have borne most of the costs.
- According to the World Inequality Report, 22 per cent of India’s national income is cornered by the top one per cent. Such disparities give rise to discontent, which have the potential to explode into a rebellion.
- Political and bureaucratic corruption in the tribal regions lead to exploitation of the tribal who are often displaced from their place of habitation for either for mining purposes or for infrastructural developments like dams for which they are ill or not paid.
- Agrarian unrest.

**TOPIC: GS II, ASPECTS OF GOVERNANCE**

### **3. Incredible India Tourist Facilitator Certification**

Source: PIB

#### **Why in news:**

The Union Tourism ministry has rolled out the Incredible India Tourist Facilitator Certification Programme (IITFC) recently which will be available for those who want to seek tourist guide as profession.

#### **About India Tourist Facilitator Certification Programme:**

- It is a certification program comprising basic and advanced self-paced courses designed in a manner that the users can learn at their own time, space, path and pace.
- It is aimed at training the facilitators for knowledge, skills and attitude domains at a nominal charge of INR 2000.
- It would enable the learner to become a certified Tourist Facilitator of Ministry of Tourism, Government of India.

#### **Advantages:**

- It will develop and enhance the skills associated with tourism.
- The IITFC program aspires to reach out to a far-flung diversity of candidates ranging from students to homemaker willing to grasp tourist facilitation skills while residing at their home.
- It will transform a local citizen having proficiency in a regional language into a potential bread earner for their households.
- It will enrich experience for the tourists by addressing the issue of shortage of tourist guides and providing best tourist facilitators.
- It will help India in realizing its goal of achieving 1 per cent share in world’s international tourist arrivals by 2020 and 2 per cent share by 2025.

#### **Government’s initiative in developing the tourism sector in the country:**

- **Swadesh Darshan** was launched in January 2015 for the development of tourism industry in the country.
- **PRASHAD** (National Mission on Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive) was launched in January 2015 for the beautification, development and improvement in amenities in important pilgrimage and heritage sites of the country.
- **HRIDAY** (Heritage city development and augmentation Yojna) was launched in January 2015 with the aim of bringing together urban planning, economic growth and heritage conservation in an inclusive manner to preserve the heritage character of each Heritage City.

**TOPIC: GS II, SEPARATION OF POWER BETWEEN EXECUTIVE AND JUDICIARY**

### **4. Issues related to the judicial over reach**

Source: The Hindu

#### **Why in news:**

A trend has emerged in the recent issues where the Judiciary has become active in making laws which is

considered to be an encroachment of judiciary in the domain falling under the executive.

#### **Earlier verdicts of the Supreme Court advocating separation of power:**

- In *Ram Jawaya vs. The State of Punjab* (1955) case, the court observed that our constitution does not contemplate assumption, by one organ of functions that essentially belong to another. This implies that there should be a broad separation of powers in the Constitution of the three organs of the state.
- In *Union of India vs. Deoki Nandan Aggarwal* (1991), the court observed that the power to legislate has not been conferred on the courts and in *Suresh Seth vs. Commissioner, Indore Municipal Corporation* (2005), the court observed that under our Constitutional scheme, Parliament and Legislative Assemblies exercise sovereign power to enact laws.

#### **Recent cases of judicial overreach:**

- In *Arun Gopal vs. Union of India* (2017), the Supreme Court fixed timings for bursting Diwali fireworks and prohibited the use of non-green fireworks, although there are no laws to that effect.
- In *M.C. Mehta vs. Union of India* (2018), the court annulled the statutory Rule 115(21) of the Central Motor Vehicle Rules, 1989, when it directed that no BS-4 vehicle should be sold after March 30, 2020, and that only BS-6 vehicles can be sold after that date.
- In *Subhash Kashinath Mahajan vs. State of Maharashtra* (2018), the court amended the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989, by annulling Section 18 which specified that no anticipatory bail will be granted to persons accused under the Act, requiring a preliminary enquiry, prohibiting arrest under the act except with permission in writing by the appropriate authority.
- In *Rajesh Sharma vs. The State of Uttar Pradesh* (2017), the court felt that Section 498A of the Indian penal code was being misused and amended the section by requiring complaints under that provision to be sent to a Family Welfare Committee constituted by the District Legal Services Authority, although there was no such requirement in Section 498A.
- National Green Tribunal (NGT) barred 15-year-old petrol-driven or 10-year-old diesel-driven vehicle from entering in Delhi, and the Supreme Court has directed impounding such vehicles, even though neither the NGT nor the Supreme Court are legislative bodies.

#### **Conclusion:**

- Laws made by judges based on their choices will go against the principle of separation of powers and will lead to uncertainty in the law. It will encourage other judges for drafting their own laws based on their whims and fancies.

### **TOPIC: GS II, ASPECTS OF GOVERNANCE**

#### **5. Aadhaar Data Security**

**Source: The Hindu**

#### **Why in news:**

The Delhi High Court has granted four more weeks to the Unique Identification Authority of India (UIDAI) to file its response on a plea raising concerns about the security of Aadhaar data, in the wake of a reported leak of personal information from the UIDAI's database.

#### **About Aadhaar:**

- It is a 12-digit number that serves as a unique identifier for Indian citizens. This unique identifier allotted by the UIDAI which also deposits the biometric and demographic data of the people in a Central Identities Data Repository (CIDR).
- Aadhaar's database has the records of more than 1 billion registered users and is rapidly becoming the government's base for public welfare and citizen services scheme.

#### **How is it secure?**

- Aadhaar authentication process validates an identity with a 'yes' or 'no', using one of the six demographic fields (name, date of birth, gender, address, mobile or email) along with either biometrics or One Time Password (OTP).
- The process is designed in such a way that neither the purpose of the transaction nor any other context is known to the Aadhaar system in order to ensure the safety of any transaction.

#### **How is it not secure?**

- As Aadhaar gained the currency of "proof of identity", most checkpoints like railways, airports and even protected areas have started using it as a source of identity.
- Aadhaar in its physical form is just a plain card and can be downloaded from anywhere or a coloured printout that can be printed and may look as good as the original.
- It does not have a hologram or digital signature but rather a QR (Quick Response) code, which is just an image representation of a text and not a security feature.

- A random blogger has recently showed how easy it is to access Aadhaar information with just a basic Google search.
- In the era of cybercrime, this centralised database may provide valuable information to criminals which can lead to either illegal tracking of individuals or identification without consent.
- These records may aid in providing data on the precise location, time and context of the services availed by that individual which is an infringement to privacy of the people.
- Sensitive financial information of individuals and companies may also be exposed through breaches of the UID database or internal collusion.
- Many staffs of the Aadhaar project often agree to make Aadhaar Cards for applicants without any proof of identification or address” for charges ranging from Rs 500 to 2500 which is a security threat not only to the citizen but also the country.

#### Way forward:

- Recently the UIDAI has introduced the “virtual ID” which can be used in lieu of the 12-digit Aadhaar number at the time of authentication for any service and has also limited access to stored personal information and mandated the use of unique tokens through which authenticating agencies can access required data. This should be implemented as soon as possible.
- Despite the recent verdict of SC on the AADHAAR which does not make it mandatory for services other than government welfare programmes, many institutions like Bank continue to make it mandatory. This must be taken into consideration.

## II. SOCIAL JUSTICE

### TOPIC: GS II, HEALTH

#### 6. Status of Nutrition in India

Source: PIB

#### Why in news:

- Third meeting of National Council on India’s Nutrition Challenges as part of Poshan Abhiyan has been recently organised.
- India has been ranked at 103 out of 119 countries, and categorised as “serious”, in the Global Hunger Index 2018 despite being one of the fastest growing economies in the world.

#### Importance of nutritional balance for the country:

- Reducing the susceptibility to infections related disability and mortality lays foundation for human development.

- It will help in materialising the human resource pool in the future.
- Enhancing the learning capacities and adult productivity.
- Instrument for poverty reduction and economic development.
- Achievement of Sustainable Development Goals (SDGs).

#### Malnutrition in India:

- As per the global studies, India’s performance on key nutrition indicators is poor.
- India has the highest child malnourishment in the world and at the same time malnutrition varies considerably across the states in the country.
- Nearly every fifth young child in the world lives in India.
- As per the report of National Health Survey-4 2015-16:
  1. Stunted children (low height for age) under five in India is 38.4% which is significantly higher than global 22.9% averages. Total stunted children stands at 53.3 millions.
  2. Rate of underweight children of India is 35.7% with a total population of 49.6 million underweight living in India which is higher than the global average of 13.5%.
- India constitutes a quarter of the global hunger burden with around 195 million undernourished people.
- Nearly 47 million or 4 out of 10 children in India are not meeting their full human potential because of chronic under-nutrition or stunting.
- According to Multi Dimension Poverty Index (MPI) 2018 of UNDP, 364 million Indians face acute deprivations in various social indicators.
- The Lancet study (2016) ranks India 145th among 195 countries behind its neighbours like China, Bangladesh, Sri Lanka and Bhutan in terms of quality and accessibility of healthcare.

#### Causes of Malnutrition in India:

- **Climate change and environmental degradation:** According to Inter-governmental Panel on Climate Change (IPCC) Assessment Report estimated countrywide agricultural loss till 2030 will be over \$7 billion due to climate change which will severely affect the income of at least 10 per cent of the population.
- **Poor breastfeeding:** According to UNICEF, WHO and Global Breastfeeding Collective, India is among the world’s five largest emerging economies where investment in breastfeeding is

significantly low resulting in an annual loss of \$14 billion due to child deaths and cognitive losses from poor breastfeeding practices.

- **Inequality:** Commitment to Reducing Inequality Index developed by Oxfam and Development Finance International India has ranked 147 out of 157 countries in terms of its commitment to reducing inequality.
- **Non empowerment of women:** Female participation in the labour force has fallen to 24% in 2011, from 31% in 2004. India is 11th from the bottom in the world in women's labour force participation.
- **Social evils and forced labour:** UNICEF India stated that 27% per cent marriages in India in 2016 were child marriages which reinforces a cycle of poverty and perpetuates gender discrimination, illiteracy and malnutrition.
- **Lack of food diversity:** It is prevalent in even prosperous states where people take only one type of food which ultimately leads to deficiency of other important nutrients and excess of a particular nutrient.

#### Initiatives taken by the government to eradicate malnutrition:

- **For ensuring accessibility and affordability of Food:** National Food Security Act 2013, Mid-Day Meals and supplementary nutrition under Integrated Child Development Scheme (ICDS).
- **For ensuring sanitation:** National Rural Drinking Water Programme and Swachh Bharat Mission.
- **Maternity Benefits:** Pradhan Mantri Matru Vandana Yojana.
- **Immunization programmes:** Mission Indradhanush and roll out of Rotavirus and Pneumococcal vaccines. Deworming initiatives
- **For ensuring early breastfeeding:** MAA National Breastfeeding Programme.
- Delaying the age of marriage and ensuring gap between pregnancies like Beti Bachao Beti Padhao and National Health Mission IEC.
- **Weekly Iron Folic Acid (IFA) supplementation** is a multi sectoral approach is necessary to tackle the problem of malnutrition.
- **Infant and young child feeding promotions (IYCF)** aims at behaviour change like exclusive breastfeeding, early initiation of breastfeeding and complementary feeding.
- **Proper Implementation of National Nutrition Mission (POSHAN Abhiyan).**

- Improved service delivery like convergence of services such as immunisation, institutional delivery, drinking water and sanitation and efficient service deliver.
- Use of ICT interventions for addressing under nutrition like:
  - (a) Real time monitoring-Population, targeted groups etc.
  - (b) Nutrition Mapping Data Analysis-Connecting Gaps.

#### Way forward:

- Diversifying the diet which should include required amount of nutrients is a better way to contain under-nutrition at the base.
- An inclusive and holistic approach including regulation of food price, strengthening the public distribution system (PDS) and income support policies for making food cheaper should be undertaken on a large scale.
- In order to improve their income and food situation, it is crucial that women obtain access to resources, that is, to credit, land, and agricultural means of production.
- Gender equality especially in the labour force must be maintained to improve the nutrition level in the children.
- There should be a mechanism for growth monitoring like early registration and weight monitoring, monthly weight monitoring, quarterly height monitoring.
- Important steps like upgrading the ICDS, enhancing the food fortification programmes and effective implementation of National Nutrition Programme should be ensured.

### TOPIC: GS II, HEALTH

#### 7. Slow progress of direct benefit transfer scheme for TB patients

**Source: The Hindu**

#### **Why in news:**

- It has been recently found that the DBT scheme for **nutritional support to Tuberculosis (TB) patients i.e. Nikshay Poshan Yojana (NPY)** has recorded slow progress in the last eight months.
- Of the 18 lakh registered TB patients across the country, only 4.69 lakh, which is only around 26%, have received cash transfer so far.

#### **Cause:**

- Many of the rural poor either do not have a bank account.

- Many victims are migrant patients whose bank accounts are difficult to be captured.

#### **About Nikshay Poshan Yojna:**

- It is a web based solution for effectively monitoring of TB patients under Revised National Tuberculosis Programme (RNTCP).
- Launched by Ministry of Health and Family Welfare in April 2018 under which financial incentive of Rs.500/- per month is provided to each notified TB patient for the duration for which the patient is on anti-TB treatment.
- In case the beneficiary does not have an account in his own name, but a family member has a bank account, the amount can be transferred to the account of a family member by obtaining an undertaking from the beneficiary.
- For beneficiaries under NPY who do not have a bank account even in his family member's name, provision of opening zero balance bank account is available under the Pradhan Mantri Jan Dhan Yojana (PMJDY) and Indian Postal Bank.

#### **Tuberculosis burden in India:**

- India is the country with the highest burden of both TB and MDR TB and accounts for a quarter of the global TB burden.
- For tackling this menace, government launched Revised National TB Control Program (RNTCP) in 1997 which uses the World Health Organisation (WHO) recommended Directly Observed Treatment Short Course (DOTS) strategy and reaches over all the districts of the country. It is responsible for carrying out the Government of India five year TB National Strategic Plans.
- National Strategic plan for TB control has been launched by the government which aims to control TB by 2025. Provisions of this plan are as follows:
  1. VISION- TB free India with zero deaths, disease and poverty due to tuberculosis.
  2. To achieve a rapid decline in the burden of TB, mortality and morbidity, while working towards the elimination of TB in India by 2025.
  3. To detect all those people with drug sensitive TB as well as those with drug resistant TB
  4. Nutritional support for patients with TB
  5. Preventing the emergence of TB in susceptible populations
  6. Private sector engagement.

### **TOPIC: GS II, INDIAN SOCIETY**

#### **8. #MeToo campaign**

**Source: The Hindu**

#### **Why in news:**

The Supreme Court on has declined to entertain the petitions seeking to take cognisance of statements of sexual harassment made during the #MeToo campaign and prosecution of the accused citing procedures which needs to be followed under the law as aggrieved person has to move the court for getting the case addressed.

#### **#MeToo Movement:**

- The Me Too movement (or #MeToo movement), is a movement against sexual harassment and sexual assault which spread virally in October 2017 as a hashtag used on social media in an attempt to demonstrate the widespread prevalence of sexual assault and harassment, especially at the workplace.
- The movement encouraged victims of sexual harassment to tweet about it and gave people a sense of the magnitude of the problem.

**Note: #Me too movement has been explained in previous weekly handouts**

#### **Me too and education:**

- As most of the accused are highly educated and qualified which shows that our education system only imparts knowledge to the people which will help in building economic potential and it has failed in imparting basic human values which imbibes the feeling of gender equality.

#### **Way forward:**

- Education system in the country should be molded in such a way that it, apart from bookish knowledge, also imparts proper way to behave and teach the student that consent is an essential component of any interaction and that decisions, even of refusal, must be respected.
- Gender equality must not be limited to newsroom debates, stand-up themes or films but should be strengthened enough to penetrate the society which is presently the root cause for gender inequality in the country.
- There must be efforts to incorporate a gender curriculum in all school and college classrooms, establish anti-sexual harassment cells, organise regular awareness programmes on consent across the country, and formulate measures to address incidents of sexual harassment.
- Campaigns like Operation Nirbheek, which was initiated to improve safety and security of girls in schools needs to be encouraged.

**TOPIC: GS II, HEALTH**

**9. Global fight on Malaria Stalled**

**Source: The Hindu**

**Why in news:**

The latest WHO report showed that the number of malaria cases in 2017 was two million higher than 2016 and international funding has also declined.

**Details of the report:**

- Malaria occurs in 91 countries but about 90% of the cases and deaths are in sub-Saharan Africa.
- Foreign funding to some of the most affected countries has declined, in certain instances by more than 20 percent.
- Another constraint in fighting malaria has been mosquitoes building up resistance to some insecticides.

**About Malaria:**

- Malaria is a mosquito-borne infectious disease affecting humans and other animals caused by parasitic single-celled microorganisms belonging to the Plasmodium group.
- It causes symptoms that typically include fever, tiredness, vomiting, and headaches and in severe cases it can cause yellow skin, seizures, coma, or death.
- Symptoms usually begin ten to fifteen days after being bitten by an infected mosquito. If not properly treated, people may have recurrences of the disease months later.
- The disease is most commonly transmitted by an infected female Anopheles mosquito.
- The mosquito bite introduces the parasites from the mosquito's saliva into a person's blood.
- The parasites travel to the liver where they mature and reproduce.

**III. ECONOMY**

**TOPIC: GS III, INDIAN ECONOMY AND MOBILIZATION OF RESOURCES, GROWTH, DEVELOPMENT AND EMPLOYMENT**

**10. NSE goBID**

**Source: Indian Express**

**Why in news:**

The National Stock Exchange (NSE) has launched an app and web-based platform, 'NSE goBID', for retail investors to buy government securities.

**About 'NSE goBID':**

- NSE goBID will allow retail investors to make payment directly from their bank accounts using the Unified Payments Interface (UPI) and internet banking.
- While retail investors will benefit from a convenient payment option, its cost effectiveness will appeal to trading members of NSE as the cost associated for setting up infrastructure is much lower than the existing platform.
- The 'NSE goBID' platform will handle order collection, payment and refund that is currently required to be managed by trading members.
- Through this app, retail investors can invest in treasury bills (T-Bills) of 91 days, 182 days and 364 days and various government bonds from one year to almost 40 years.
- While investment could be done almost every week after a one-time registration, the app would be available to all investors registered with NSE's trading members.

**Significance:**

- The launch assumes significance as government securities are among the safer investment options available to retail investors as such securities are credit risk free instruments while providing portfolio diversification with longer investment durations.

**TOPIC: GS III, EFFECTS OF LIBERALIZATION ON THE ECONOMY, CHANGES IN INDUSTRIAL POLICY AND THEIR EFFECTS ON INDUSTRIAL GROWTH**

**11. U.K. India Business Council's Ease of Doing Business Report**

**Source: The Hindu**

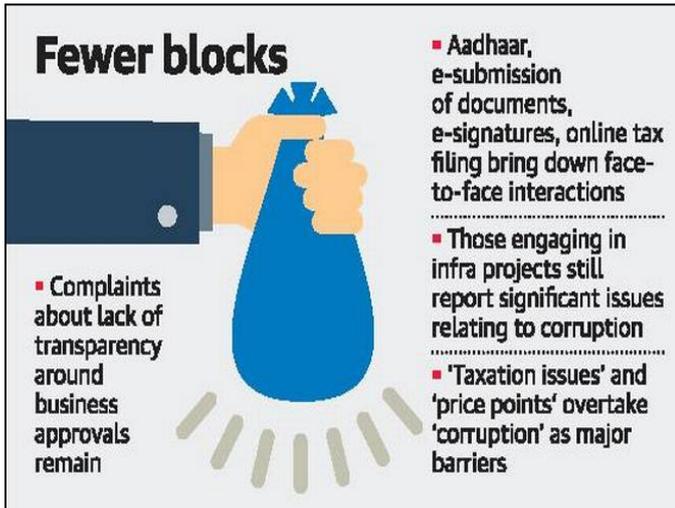
**Why in news:**

The perception among U.K. businesses that corruption is a major barrier in doing business in India has halved, according to the latest edition of the U.K. India Business Council's Ease of Doing Business report compared with what it was in 2015.

**Key observations from the report:**

- Since the first report was launched, there has been a considerable year-on-year fall in the number of companies that viewed 'corruption' as a major barrier – from 34% in 2016 to 25% in 2017, halving since 2015, where it stood at 51%

- This decline shows a major improvement, indicating that the current government's efforts to mitigate corruption appear to be delivering tangible and much-desired results.
- Corruption is no longer considered a 'top-three' barrier compared to those not currently active in India.



**Reasons of this progress:**

- The report noted that initiative such as Aadhaar, electronic submission of government documents, acceptance of electronic signatures, and the push to file taxes online. This all have reduced face-to-face interactions where corruption is most likely to take place.
- The extent of digitalization, however, varies markedly across sectors, as does corruption, with those engaging in infrastructure projects still reporting significant issues relating to corruption.

**Concerns:**

- Taxation issues and Price Points overtook 'corruption' as major barriers identified by 36% and 29% of respondents, respectively. The proportion of respondents identifying 'taxation issues' was 3% lower in 2018 than 2017.
- The key issue for those outside India is increasingly market demand for their products and services relative to government and bureaucracy-related barriers.
- While most of the respondents agreed that the government's 'e-biz' initiative towards faster clearances would improve the business environment, they also said that there remain significant complaints about around the lack of transparency around business approvals, particularly in the case of statutory approvals for investments.

**TOPIC: GS III, EFFECTS OF LIBERALIZATION ON THE ECONOMY, CHANGES IN INDUSTRIAL POLICY AND THEIR EFFECTS ON INDUSTRIAL GROWTH**

**12. Ease of Doing Business Grand Challenge**

**Source: PIB**

**Why in news:**

The PM has launched Ease of Doing Business Grand Challenge on resolving seven identified Ease of Doing Business problems with use of cutting edge technologies.

**About Ease of Doing Business Grand Challenge:**

- The objective of this challenge is to tap potential of young Indians, startups and other private enterprises to provide solutions to complex problems using current technology.
- This challenge is aimed at attracting innovative ideas on artificial intelligence (AI), Internet of Things (IoT), big data analytics, blockchain and other cutting edge technology to reform government processes. The platform for this grand challenge will be on Start Up India portal.
- It is in pursuance of Government's resolve to make India one of the easiest places to conduct business in the world.

**Background:**

- In World Bank's Doing Business Report (DBR, 2019), India has recorded jump of 23 positions against its rank of 100 in 2017 to be placed at 77th rank among 190 countries. India has improved its rank by 53 positions in the last two years and 65 positions in the last four years (2014-18).
- World Bank's Ease of Doing Business index ranks 190 countries based on 10 parameters, including starting a business, construction permits, getting electricity, getting credit, paying taxes, trade across borders, enforcing contracts, and resolving insolvency.

**TOPIC: GS III, INFRASTRUCTURE-ENERGY**

**13. City Gas Distribution (CGD) Projects**

**Source: PIB**

**Why in news:**

Prime Minister would lay the foundation stone for City Gas Distribution (CGD) Projects in 129 Districts. It would herald the availability of convenient, environment-friendly and cheaper natural gas for almost half of the country's population spread across 26 States and Union Territories.

- The projects, recently awarded by the **Petroleum and Natural Gas Regulatory Board (PNGRB)** would cover 65 Geographical Areas (GAs) under the ninth round of bidding.

**About CGD Network:**

- Government of India has put thrust to promote the usage of environment friendly clean fuel i.e. natural gas as a fuel/feedstock across the country to move towards a gas based economy.
- Accordingly, development of CGD networks has been focused to increase the availability of cleaner cooking fuel (i.e. PNG) and transportation fuel (i.e. CNG) to the citizens of the country. The expansion of CGD network will also benefit to industrial and commercial units by ensuring the uninterrupted supply of natural gas.
- In 2014, only 66 districts were covered by the CGD network. But today, CGD projects are being implemented in 174 districts. As per the commitment made by various entities in the ninth bidding round, around 2 crore PNG (domestic) connections and 4,600 CNG stations are expected to be installed in the next eight years across the country. This has expanded the potential coverage of the CGD network to about 50 per cent of population spread over 35 per cent of India's geography.

**Background:**

- As per WHO database released in May 2018, India has 14 out of 15 world's most polluted cities in terms of PM 2.5 concentration. Large number of industries also consume polluting fuels like pet coke and furnace oil which emit polluting CO<sub>2</sub>. Some of the courts recently ordered for banning use of pet coke in states within their jurisdiction.
- India made a commitment in COP21 Paris Convention in December 2015 that by 2030, it would reduce carbon emission by 33% of 2005 levels.

**Why Natural Gas?**

- Natural gas is a superior fuel as compared with coal and other liquid fuels being an environment friendly, safer and cheaper fuel. Natural Gas is supplied through pipelines just like one gets water from the tap. There is no need to store cylinders in the kitchen and thus saves space.
- Natural Gas (as CNG) is cheaper by 60% as compared with petrol and 45 % w.r.t. Diesel. Similarly, Natural Gas (as PNG) is cheaper by 40 % as compared with market price LPG and price of PNG almost matches with that of subsidised LPG (based on prices in Delhi).

- Natural gas, as domestic kitchen fuel, as fuel for transport sector as well as a fuel for industries and commercial units, can play a significant role in reducing carbon emission.

**About PNGRB:**

- The Petroleum and Natural Gas Regulatory Board (PNGRB) was constituted under The Petroleum and Natural Gas Regulatory Board Act, 2006.
- The Act provide for the establishment of Petroleum and Natural Gas Regulatory Board to protect the interests of consumers and entities engaged in specified activities relating to petroleum, petroleum products and natural gas and to promote competitive markets and for matters connected therewith or incidental thereto.
- The board has also been mandated to regulate the refining, processing, storage, transportation, distribution, marketing and sale of petroleum, petroleum products and natural gas excluding production of crude oil and natural gas so as and to ensure uninterrupted and adequate supply of petroleum, petroleum products and natural gas in all parts of the country.

**IV. ENVIRONMENT**

**TOPIC: GS III, CONSERVATION, ENVIRONMENT POLLUTION AND DEGRADATION**

**14. Eco-sensitive zones**

**Source: The Hindu**

**Why in news:**

The National Green Tribunal (NGT) has asked the Ministry of Environment, Forests and Climate Change (MoEF&CC) to consider declaring all elephant corridors in the country as eco-sensitive zones.

- NGT has given two weeks time to the Ministry to look into the issue and to proceed in the matter for declaration of such areas as eco sensitive zones.

**Background:**

- The observations came while the green panel was hearing a plea that highlighted the increasing number of unnatural elephant deaths taking place in the state. The petition said, "Owing to the increased denudation and loss of their forest habitats, elephants have come increasingly into conflicts with humans and faced deliberate retaliatory killings and accidents at railway crossings, high tension power lines, power fences and trenches."

### What are Eco-sensitive zones (ESAs)?

ESAs are defined as those areas 'that are ecologically and economically important, but vulnerable even to mild disturbances, and hence demand careful management'. Further, by virtue of their biological richness, they could be potentially of high value to human societies, help in maintaining the ecological stability of the area, and be significant in conserving biological diversity.

- The Environment Protection Act, 1986 does not mention the word "Eco-sensitive Zones".
- The section 3(2)(v) of the Act, says that Central Government can restrict areas in which any industries, operations or processes or class of industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards
- Besides the section 5 (1) of this act says that central government can prohibit or restrict the location of industries and carrying on certain operations or processes on the basis of considerations like the biological diversity of an area, maximum allowable limits of concentration of pollutants for an area, environmentally compatible land use, and proximity to protected areas.
  - The above two clauses have been effectively used by the government to declare Eco-Sensitive Zones or Ecologically Fragile Areas (EFA). The same criteria have been used by the government to declare No Development Zones.

#### Criteria:

- The MoEF (Ministry of Environment & Forests) has approved a comprehensive set of guidelines laying down parameters and criteria for declaring ESAs. A committee constituted by MoEF put this together. The guidelines lay out the criteria based on which areas can be declared as ESAs. These include Species Based (Endemism, Rarity etc), Ecosystem Based (sacred groves, frontier forests etc) and Geomorphologic feature based (uninhabited islands, origins of rivers etc).

**TOPIC: GS III, CONSERVATION  
ENVIRONMENTAL POLLUTION  
AND DEGRADATION**

## 15. Global Stocktake

**Source: Indian Express**

#### Why in news:

Ahead of the UN climate conference in Poland in December, the BASIC (Brazil, South Africa, India and China) group met to put pressure on developed countries to meet pre-2020 climate efforts, and to

"progressively" and "substantially" scale up their financial support for future action.

- The group, through a joint statement, urged developed countries to take urgent actions to close the pre-2020 implementation gaps by 2023 which they said can be a useful input for the first Global Stocktake (GST) — which they said should be conducted in light of equity and the best available science.

#### About Global Stocktake:

The Global stocktake (GST) refers to a proposed five-yearly review of the impact of climate change actions undertaken by countries.

- Under the Paris Agreement, every country must present a climate action plan in five-yearly cycles.
- Under the Paris Agreement, the first global stocktake will happen in 2023. It will assess whether the net result of the climate actions being taken was consistent with the goal of keeping the increase in global average temperature from pre-industrial times to within 2 degree Celsius. The stocktake will help the world determine whether it needs to do more — and how much more.

#### What it covers?

- While every country is required to participate in the global stocktake, the exercise will not assess whether actions of any individual country are adequate or not. It will only make an assessment of the "collective" efforts of the world. That is because the climate actions are supposed to be "nationally determined", and nations have problems over being told by others what they should do. The stocktake will not go into who should do how much — and will rather focus on what needs to be done.
- In accordance with the demands of developing countries, the stocktake will cover not only the results of actions to reduce greenhouse gas emissions but of actions being taken to adapt to the effects of climate change as well. It will also include an assessment of whether developed countries are offering adequate help to developing countries by providing money and technology, as mandated by the Paris Agreement.

#### About BASIC:

- BASIC countries are bloc (geopolitical alliance) of four large newly industrialized countries – Brazil, South Africa, India and China.
- It was formed by agreement in November 2009.
- They were committed to act jointly at Copenhagen climate summit 2009, including possible united

walk-out if their common minimum position was not met by developed nations during climate talks.

## V. INTERNATIONAL RELATIONS

### TOPIC: GS II, INDIA AND ITS NEIGHBORING COUNTRIES

#### 16. India for inclusive Indo-Pacific region

Source: The Hindu

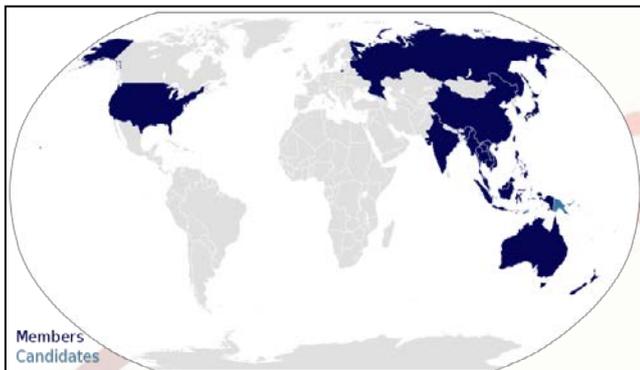
Why in news:

Thirteenth East Asia Summit 2018 has been recently held in Singapore where India declared its vision for peaceful and inclusive Indo Pacific region.

Details of the summit:

Important topics in the summit included enhancing multilateral cooperation, economic and cultural ties among member nations.

India also reiterated its vision of a peaceful, open and inclusive Indo-Pacific region, strengthening maritime cooperation and commitment to a balanced Regional Comprehensive Economic Partnership (RCEP) pact.



India and East Asia Summit:

- India is the founding member of the EAS in 2005.
- Declaration of Asia Pacific region as Indo Pacific region by USA has shown the importance of India in the region.
- Many of the ASEAN members are suspicious of China's Belt and Road Initiative and look towards India as a potential balancing power in the wake of retreating character of USA from the position of net security provider.
- It is a platform for the QUAD countries including India, USA, Japan and Australia for countering aggressive China in the Indo Pacific region.
- India has much to offer to the EAS and also gain in return, especially in areas like "maritime security, terrorism, non-proliferation, irregular migration, etc." Hence, this growing partnership represents a win-win equation for both India and the EAS.
- EAS is one of the most important platform for India for realizing its Act East Policy.

About East Asia Summit:

- The EAS consists of 10 ASEAN nations (Indonesia, Thailand, Singapore, Malaysia, the Philippines, Vietnam, Myanmar, Cambodia, Brunei and Laos), Australia, China, India, Japan, New Zealand, South Korea, Russia and the U.S.
- It allows the principal players in the Asia-Pacific region to discuss issues of common interest and concern, in an open and transparent manner, at the highest level.
- Priority areas:
  - (i). Environment and Energy
  - (ii). Education
  - (iii). Finance
  - (iv). Global Health Issues and Pandemic Diseases
  - (v). Natural Disaster Management
  - (vi). ASEAN Connectivity

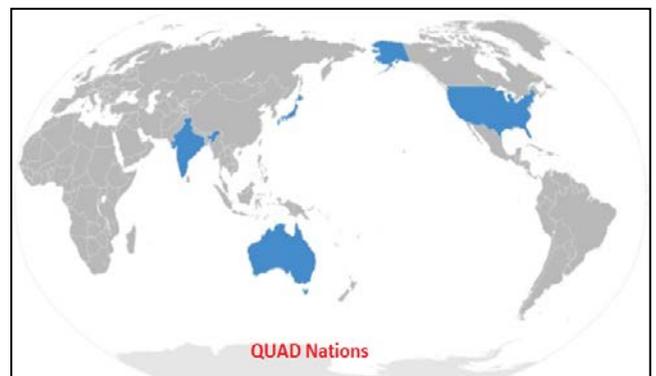
### TOPIC: GS II, BILATERAL AND REGIONAL GROUPINGS

#### 17. ASEAN and QUAD

Source: The Hindu

Why in news:

Vietnam has recently showed its ambivalent position on the Quad grouping comprising India, Australia, Japan, and the U.S by showing its openness to any country's initiative to preserve freedom of navigation and overflight in the region and opposition to any military alliance that could undermine regional peace and security.



QUAD in its present shape:

- In November last year, India, the US, Australia and Japan gave shape to the long-pending "Quad" Coalition to develop a new strategy to keep the critical sea routes in the Indo-Pacific free of any influence.
- They agreed to partner with other countries and forums in the region to promote a free, open, rules-based and inclusive order in the Indo-Pacific that fosters trust and confidence.

- They committed to strengthening connectivity and quality infrastructure based on sovereignty, equality and territorial integrity of all nations, as well as transparency, economic viability and financial responsibility.
- Cooperation in areas such as connectivity, sustainable development, counter-terrorism, non-proliferation and maritime and cybersecurity is also the focus area.
- The move was seen as an effort to contain China's growing influence in the Indo-Pacific region.
- The US has been pushing for a greater role for India in the Indo-Pacific which is seen by many countries as an effort to contain China's growing clout in the region.
- Despite giving shape to the QUAD all the members continued to have differences on the objectives of the grouping as each of the four sides issued separate statements in its Singapore summit.
- India is known to be reluctant in giving military shape to "Quad".

**TOPIC: GS II, INDIA AND ITS NEIGHBOURING COUNTRIES**

**18. India and China bonhomie**

**Source: The Hindu**

**Why in news:**

India and China are set to expand their military ties, in tune with the spirit of the Wuhan informal summit held earlier this year. At the same time in the wake of China's trade war with USA, it has opened up its market for non US imports which provides India a great opportunity.

**Details of the announcement:**

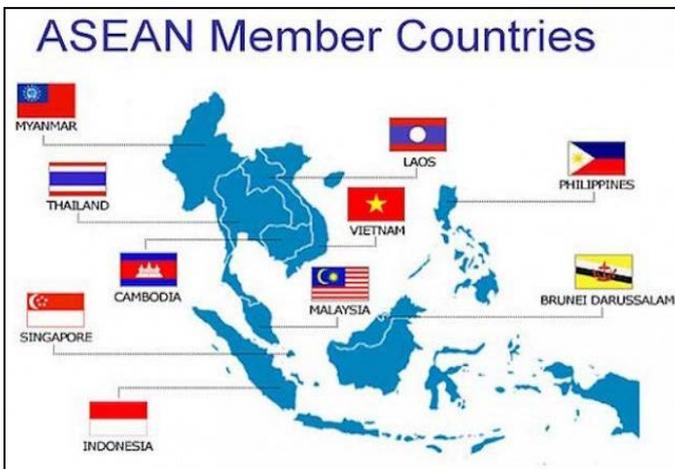
- Regular meeting will be started for the first time between the cadets from Indian and Chinese military academies.
- Continued visits at the level of military commands and civilian officers of the Ministry of Defence.
- Expediting the confidence-building measures to maintain peace and tranquillity on the borders
- The two sides stressed the need to "further strengthen military-to-military ties in order to strengthen political and strategic mutual trust between the two countries
- The statement pointed towards specific defence exchanges for 2019.
- Regular hand-in-hand joint military exercise between India and China will be held before the year-end.

**Opportunities for India:**

- Chinese decision to allow non US imports in its market has allowed India to advertise its agri products in its markets.
- It will boost India's export of agri products like Soya bean, Tea, Sugar etc to China and help in reducing the trade imbalance which is at present 63 Billion dollars.

**Impact of the move on Sino Indian relations:**

- Strengthening communication between both the armies.
- Reciprocal high-level visits and joint training exercises for the military will give boost to the confidence building measures.
- Political and strategic mutual trust.
- Maintaining peace and tranquillity in the India-China border areas which will help in avoiding future standoff like Doklam.



**India and QUAD:**

- According to a release from the Ministry of External Affairs (MEA), the Quad countries agreed to strengthening connectivity and quality infrastructure in the region according to principles of sovereignty and economic viability.
- While India and Japan are already cooperating on a number of projects in South Asia, which are seen as a counter to projects that China is planning under the Belt and Road Initiative, yet no project is being developed under 'Quad' level projects.
- India has agreed to partner with other countries and forums in the region to promote a free, open, rules-based and inclusive order in the Indo-Pacific that fosters trust and confidence which shows that the Quadrilateral would not be an exclusive grouping on maritime security in the region.

**TOPIC: GS II, INDIA AND ITS NEIGHBOURING COUNTRIES**

**19. India- Maldives Relations**

**Source: The Hindu**

**Why in news:**

Ibrahim Mohammad Solih has been elected as the new President of Maldives and it is expected that it will shed the bitterness emerged in the Indo- Maldivian relations which had emerged between the two countries during the previous regime which can be assumed from his invitation to Indian PM on inauguration ceremony.

**Advantages for India:**

**A. Strategic:**

- Peaceful neighborhood is conducive for India’s security.
- A democratic government in Maldives will ensure its inclination towards India and away from China.
- China’s presence is expected to reduce in near future.
- India is expected to regain the position of net security provider in Maldives.

**B. Economic:**

- A large number of Indians work across the hospitality, education, and health-care, construction etc in Maldives which ultimately helps Indian economy to grow. It reduced during the previous regime
- India contributes everything from helicopters to medical visas to Maldivians which is important from both economic as well as strategic point of view.

**C. Cultural:**

- Historic cultural relation between the two countries will again become further stronger.



**What Maldives will gain?**

**A. Economic:**

- India’s help is indispensable for Maldives for repayment of debt to China.
- Earlier corruption ridden regime led to an unstable economy thus India’s help is required in rebuilding the Maldivian economy.

**B. Strategic:**

- India’s non aggressive soft power image is different from China’s aggressive economic trap policies.

**C. Political:**

- Current government is based on the liberal Maldivian Democratic Party and Islamic-based Adhaalath Party which makes the current government not very strong based on ideological differences. In such a scenario, help of a matured democracy is important for nascent democracy like Maldives.

**Indo Maldivian relations (In brief):**

- India and Maldives enjoy close ties of friendship and cooperation and share a common destiny. Peace and stability in Maldives is of utmost importance to India and the region.
- Both nations established diplomatic relations after the independence of Maldives from British rule in 1966.
- Both the countries officially and amicably decided their maritime boundary in 1976.
- Both the countries signed a comprehensive trade agreement in 1981.
- Both are founding members of the South Asian Association for Regional Cooperation (SAARC), the South Asian Economic Union and signatories to the South Asia Free Trade Agreement.
- Important incidents of India’s help to Maldives which shows India’s commitment to a peaceful and prosperous Maldives:
  - (a) India launched Operation Cactus against LTTE in 1988 who entered in Maldives to gain control of the island.
  - (b) India was the first country to rush relief and aid to Maldives in the wake of Tsunami of 2004 and also provided financial support of 10 crores.
  - (c) India was also first to deliver water to the country when its only water desalination plant destroyed.

**TOPIC: GS II, BILATERAL AND REGIONAL GROUPINGS**

**20. Asia-Pacific Economic Cooperation**

**Source: The Hindu**

**Why in news:**

The recently concluded Asia-Pacific Economic Cooperation wrapped up its summit with no joint communiqué issued which marks a departure from tradition of issuing joint communiqué by the major world power.

**About Asia-Pacific Economic Cooperation:**

- It is regional economic forum of 21 Pacific Rim member economies that promotes free trade throughout the Asia-Pacific region.
- It was established in 1989 in order to leverage the growing interdependence of Asia-Pacific region's economies and promote free trade in the region.
- It collectively account for nearly 50% of world's trade and about 57% of GDP.
- 21 Members: Australia, Brunei, Canada, Indonesia, Japan, South Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, United States, Taiwan, Hong Kong, China, Mexico, Papua New Guinea, Chile, Peru, Russian and Vietnam.
- Headquarters: Singapore.
- India is observer of APEC since 2011 and has applied for membership.

**Why wasn't the joint communiqué issued?**

- The APEC's leaders, principally led by the U.S. and China, clashed over the proposed wording of the document.
- Economic rivalry between USA and China appeared to fracture the summit in two segments.
- Friction started due to USA's "America First" policy, under which it led the charge on unfair trade practices and implicitly accused China for not giving a level playing field in global trade.

**Reason USA's friction with China:**

- U.S. continuously wants China to increase market access and grant intellectual property protections for American corporations, cut back industrial subsidies and, at a broader level, bring down the \$375-billion trade gap.
- USA, in the APEC summit called upon nations to avoid loans that could leave them in a debt trap with China.
- China's belt and road initiative has worried smaller Asian nations and the U.S., particularly given that China views the Asia-Pacific landscape as a means to secure economic predominance worldwide.

**Impact of the Clash:**

- Instability in the world trading system and exacerbating the ongoing trade war under which both sides go for tariff hike which has resulted in the IMF downgrading its global growth outlook for this year and the next to 3.7%, down 0.2 percentage points from an earlier forecast.
- If this continues, eventually global supply chains may be hit, and shrinking trade volumes may cause companies to seek out new trading routes and partners.
- It will also create geo political instability as already a large number of regional groupings are being formed to further their interest. They often lead to unnecessary conflict.
- As a consequence to the tariff war, the multilateral rule-making bodies such as the WTO may lose their authority, and an interlocking system of bilateral trade treaties and punitive sanctions networks may substitute the consensus-based approach.
- Asia will be at the heart of this war of attrition because strategic control of its high-value maritime trading routes is the key to China's dreams of global trade dominance.

**VI. SCIENCE & TECHNOLOGY**

**TOPIC: GS III, SCIENCE AND TECHNOLOGY- DEVELOPMENTS AND THEIR APPLICATIONS AND EFFECTS IN EVERYDAY LIFE**

**21. China's 'artificial sun': Experimental Advanced Superconducting Tokamak (EAST)**

**Source: The Hindu**

**Why in news:**

China has announced that its Experimental Advanced Superconducting Tokamak (EAST) reactor — an "artificial sun" designed to replicate the process our natural Sun uses to generate energy — just hit a new temperature milestone: 100 million degrees Celsius (180 million degrees Fahrenheit).

- To put that in perspective, the temperature at the core of the sun is said to be about 15 million degrees Celsius, making the plasma in China's "artificial sun" more than six times hotter than the original.

**Background:**

- While current nuclear power plants rely on nuclear fission — a chain reaction where uranium atoms are

split to release energy — nuclear fusion effectively does the opposite by forcing atoms to merge.

- One way of achieving this on Earth is by using what's known as a tokamak, a device designed to replicate the nuclear fusion process that occurs naturally in the Sun and stars to generate energy.

#### **About Experimental Advanced Superconducting Tokamak (EAST):**

- It is an experimental superconducting tokamak magnetic fusion energy reactor in Hefei, China. The Hefei-based Institute of Plasma Physics is conducting the experiment for the Chinese Academy of Sciences. It has operated since 2006. It was later put under control of Hefei Institutes of Physical Science.
- The EAST stands at 11 metres tall, has a diameter of 8 metres and weighs about 360 tonnes.
- It uses a ring to house heavy and super-heavy isotopes — atomic variations — of hydrogen known as deuterium and tritium.
- The isotopes are heated by powerful electric currents within the tokamak, tearing electrons away from their atoms and forming a charged plasma of hydrogen ions.
- Powerful magnets lining the inner walls of EAST then contain the plasma to a tiny area to maximise the chance that the ions will fuse together.
- When the ions fuse they give off a large amount of energy, which can then be harnessed to run a power plant and produce electricity.

#### **Way ahead:**

- Not only is EAST's new plasma temperature milestone remarkable because, wow, it's really hot, it's also the minimum temperature scientists believe is needed to produce a self-sustaining nuclear fusion reaction on Earth.
- Now that China's "artificial sun" is capable of heating plasma to the necessary temperature, researchers can focus on the next steps along the path to stable nuclear fusion. Nuclear fusion reactors also avoid risks associated with the currently employed nuclear fission reactors, which can be adapted into dangerous weapons and are prone to possible catastrophic meltdowns.

**TOPIC: GS III, AWARENESS IN SPACE**

## **22. GROWTH- India Telescope**

**Source: The Hindu**

#### **Why in news:**

The 0.7 m GROWTH-India telescope at the Indian Astronomical Observatory located in Hanle, Ladakh,

has made its first science observation which is a follow-up study of a nova explosion.

#### **About the observation:**

- Novae are explosive events involving violent eruptions on the surface of white dwarf stars, leading to temporary increase in brightness of the star. Unlike a supernova, the star does not go on to die but returns to its earlier state after the explosion.
- The recurrent nova, named M31N-2008, has been observed to erupt several times, the most recent eruption happening in November 2018.

#### **Background:**

- Transient phenomena such as supernovae are important parts of time-domain astronomy which is a less-explored frontier in astronomy. Such an explosion is when the inner material of the star is thrown out. There is no other way we can actually see what is inside a star.

#### **About GROWTH-India Telescope:**

The GROWTH-India telescope is part of a multi-country collaborative initiative — known as the **Global Relay of Observatories Watching Transients Happen (GROWTH)** — to observe transient events in the universe.

- The fully robotic telescope is designed to capture cosmic events occurring over relatively shorter periods of the cosmological timescale: years, days and even hours.
- Universities and research institutes from the US, the UK, Japan, India, Germany, Taiwan and Israel are part of the initiative.
- Their primary research objective is time-domain astronomy, which entails the study of explosive transients and variable sources (of light and other radiation) in the universe.
- A typical professional telescope has a field of about 0.1 square degrees. This telescope has a field that is five to six times larger. It can 'slew' or move its focus from one part of the sky to another in just about 10-15 seconds and its camera can view stellar objects that are thousands to millions of light years away.

#### **It's threefold goals:**

1. Search for explosions in the optical regime whenever LIGO group detects a Binary Neutron Star merger.
2. Study nearby young supernova explosions.
3. Study nearby asteroids.

**TOPIC: GS III, SCIENCE AND TECHNOLOGY- DEVELOPMENTS AND THEIR APPLICATIONS AND EFFECTS IN EVERYDAY LIFE**

**23. World's standard definition of kilogram Redefined**

Sources: PIB, BBC

**Why the news:**

- Scientists have changed the way the kilogram is defined. The decision was made at the General Conference on Weights and Measures. The new definitions will come into force on 20 May 2019.
- General Conference on Weights and Measures (CGPM) is the highest international body of the world for accurate and precise measurements and comprises of 60 countries including India and 42 Associate Members.

**Why kill off the kilogram?**

- Currently, it is defined by the weight of a platinum-based ingot called "Le Grand K" which is locked away in a safe in Paris.
- Le Grand K has been at the forefront of the international system of measuring weights since 1889. Several close replicas were made and distributed around the globe. But the master kilogram and its copies were seen to change – ever so slightly – as they deteriorated.
- In a world where accurate measurement is now critical in many areas, such as in drug development, nanotechnology and precision engineering – those responsible for maintaining the international system had no option but to move beyond Le Grand K to a more robust definition.

**How wrong is Le Grand K?**

- The fluctuation is about 50 parts in a billion, less than the weight of a single eyelash. But although it is tiny, the change can have important consequences.

**How does the new system work?**

- Electromagnets generate a force. Scrap-yards use them on cranes to lift and move large metal objects, such as old cars. The pull of the electromagnet, the force it exerts, is directly related to the amount of electrical current going through its coils. There is, therefore, a direct relationship between electricity and weight.
- So, in principle, scientists can define a kilogram, or any other weight, in terms of the amount of electricity needed to counteract the weight (gravitational force acting on a mass).

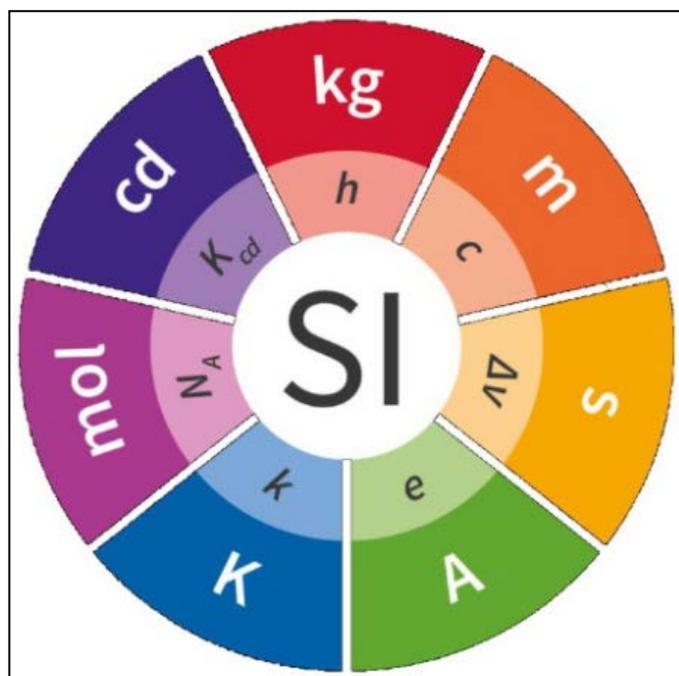
**Planck's constant (h):**

There is a quantity that relates weight to electrical current, called Planck's constant – named after the German physicist Max Planck and denoted by the symbol h.

- But h is an incredibly small number and to measure it, the research scientist Dr Bryan Kibble built a super-accurate set of scales. The Kibble balance, as it has become known, has an electromagnet that pulls down on one side of the scales and a weight – say, a kilogram – on the other. The electrical current going through the electromagnet is increased until the two sides are perfectly balanced.
- By measuring the current running through the electromagnet to incredible precision, the researchers are able to calculate h to an accuracy of 0.000001%. This breakthrough has paved the way for Le Grand K to be deposed by "die kleine h".

**Background:**

- The definition of the seven base units namely, second, metre, kilogram, ampere, Kelvin, mole and candela has been changed from being linked to artefacts to being based on the fundamental constants on nature. Notably the definition of kilogram has been changed from being the mass of prototype sanctioned by the 1st CGPM held in Paris in 1889 and deposited at the BIPM to the Planck constant which is a physical constant. Likewise, the definition of metre has been changed to link it to the speed of light. There is a change in definition of time also.



## VII. PRELIMS/MISCELLANEOUS

### **24. India's First Elephant Hospital Opens in Mathura**

- India's first specialized hospital for elephants has been opened in Mathura.
- The unique medical centre offers wireless digital X-ray, laser treatment, dental X-ray, thermal imaging, ultrasonography, hydrotherapy and quarantine facilities.
- Located close to the elephant conservation and care centre, the hospital is designed to treat injured, sick or geriatric elephants and is equipped with a medical hoist for lifting elephants, as also an elephant restraining device with a dedicated indoor treatment enclosure for long duration medical procedures.

### **25. New species of Indian horned frogs from Himalayan Regions**

- Scientists have discovered four new species of Indian horned frogs from Himalayan regions of Northeast India.
- Horned frogs get their name from fleshy horn-like projection on upper eyelids of some species
- They were discovered in the forests of Meghalaya and Arunachal Pradesh.
- Scientists have named them as Himalayan horned frog (*Megophrys himalayana*), Garo white-lipped horned frog (*Megophrys oreocrypta*); Yellow spotted white-lipped horned frog (*Megophrys flavipunctata*) and Giant Himalayan horned frog (*Megophrys periosa*).
- These frogs vary in size — yellow spotted white-lipped horned frog measures about 5.7-7.5 cm and is smallest among four. Giant Himalayan horned frog measures about 7.1 to 11.2 cm, making it largest of 15 horned frog species found in Northeast India.

### **26. Russian Igla-S missile system**

- Indian Army has picked Russia's Igla-S missile system as choice for its multibillion dollar contract for man-portable air defence systems (MANPADS).

#### **About IGLA-S missile system:**

- It is latest model of Russian MANPADS (Man-portable air-defense system) technology. It offers superior performance over earlier supplied SA-18 missiles to India. It is designed for use against visible aerial targets at short range such as tactical aircraft, helicopters, unmanned aerial vehicle

(UAVs), cruise missile, head-on or receding, in presence of natural (background) clutter and countermeasures.

- As per requirements of Indian Army, it will have maximum range of 6km, altitude of 3km along with all-weather capability. Igla-S missile system will replace the existing Igla in service which is in urgent need of replacement.

#### **Concerns for this deal:**

- There is fear of US financial sanctions for arms purchases from Russia under Countering America's Adversaries Through Sanctions Act (CAATSA) law that restricts defence purchases from Russia, Iran and North Korea. US is yet to grant India waiver for \$5.43 billion S-400 surface-to-air missiles defence system as well as naval warship deal with Russia signed in early October 2018 under CAATSA.

### **27. WCCB wins Asia Environment Enforcement Awards**

United Nations Environment Program (UNEP) has selected Wildlife Crime Control Bureau (WCCB) and its enforcement officer RS Sharath for 2018 Asia Environmental Enforcement Awards.

- They were selected under organization and individual categories respectively for their outstanding contributions in combating the trans-boundary environmental crimes.
- The 2018 Awards will be given by UNEP with UN Development Programme (UNDP), UN Office on Drugs and Crime, INTERPOL (UNODC), USAID, Freeland Foundation, and Government of Sweden.
- WCCB is statutory multi-disciplinary body under Union Ministry of Environment, Forests and Climate Change (MoEFCC) to combat organized wildlife crime in the country. It was established in June 2007 by amending Wildlife (Protection) Act (WLPA), 1972, a special Act to protect wildlife and fauna in the country.

### **28. Kg gets a new definition**

- Recently, more than 50 nations unanimously approved the international system of measurement's new scientific definitions for the kilogram and other units.
- Earlier, kilogram has been defined as the mass of a cylinder of platinum-iridium alloy kept in a high-security vault in France. That artefact, nicknamed 'Le Grand K,' has been the world's sole true kilogram since 1889.

- But now, the kilogram and all of the other main measurement units will be defined using numerical values that fit handily onto a wallet card.
- Unlike a physical object, the new formula for the kilo, also known as “the electric kilo,” cannot pick up particles of dust, decay with time or be dropped and damaged but will be easier to share. It is expected to be more accurate when measuring very, very small or very, very large masses and help usher in innovations in science, industry, climate study and other fields.
- Updated definitions for the ampere, kelvin and mole also were approved.

### **29. World Toilet Day**

- World Toilet Day has been celebrated by Swachh Bharat Mission (Grameen) on 19 November with mass awareness and mobilization activities across States and districts.

#### **About World Toilet Day:**

- World Toilet Day was established by the World Toilet Organization in 2001.
- The UN General Assembly declared World Toilet Day in 2013.
- UN-Water is the official convener of World Toilet Day which maintains the official World Toilet Day website and chooses a special theme for each year.
- World Toilet Organization is a NGO committed to improving toilet and sanitation conditions worldwide.

### **30. Qaumi Ekta Week**

- With a view to foster and reinforce the spirit of Communal Harmony, the “Qaumi Ekta Week” (National Integration Week) has been observed all

over the country, from 19th November to 25th November, 2018.

- The National Foundation for Communal Harmony (NFCH), an autonomous organisation with the Ministry of Home Affairs, organises Communal Harmony Campaign coinciding with the Qaumi Ekta Week and observes the Communal Harmony Flag Day on 25th November.

#### **Details of this programme:**

- November 19 has been observed as National Integration Day.
- November 20 has been observed as Welfare of Minorities Day.
- November 21 has been observed as Linguistic Harmony Day.
- November 22, 2018 has been observed as Weaker Sections Day.
- November 23 has been observed as Cultural Unity Day.
- November 24 has been observed as Women’s Day.
- November 25 has been observed as Conservation Day for environment.

#### **Advantage:**

- It will help to highlight the inherent strength and resilience of the country to withstand actual and potential threats to the eclectic and secular fabric of our country, and nurture a spirit of communal harmony in its widest sense.
- It provides an opportunity to reaffirm age old traditions and faith in the values of tolerance, co-existence and brotherhood in a multi-cultural and multi-religious society.

**Question:**

1. Explain the concept of Urban Naxalism and possible impact of its misuse. Describe the approach of the government for handling the Naxal menace? Throw light on various issues related development in Left Wing Extremism affected regions.
2. Explain the concept of judicial overreach in India. Supreme Court has also opined the separation of power through its various verdicts. Discuss.
3. Discuss various issues related to the data security under AADHAAR? Suggest measures for making AADHAAR more secure.
4. Critically analyse various initiatives taken by the government for eliminating malnutrition in India. Despite taking various efforts, the problem of malnutrition still prevails. Why? Suggest measures to make the efforts being taken to eliminate malnutrition in India more effective.
5. Despite making large scale efforts to curb the menace of Tuberculosis, it is endemic in many parts of the world. Why? Critically analyse various steps taken by India to curb this problem.
6. Sexual harassment at workplace shows that our education system is still incompetent to create gender equality. Discuss in the context of recent #me too movement in India.
7. What is East Asia Summit? How is it important for India?
8. Critically analyse the post Wuhan Sino Indian relations. What is its impact? Do you think that it is sustainable?
9. Regime change in Maldives is a win win situation for both India and Maldives. Discuss.