

## TOPIC 1

### North East: NLCPR and NESIDS schemes for

#### Relevancy:

- GS Prelims, GS Mains paper I, II
- Government policies and programmes

#### Recently:

- The Union Cabinet chaired by the Prime Minister Shri Narendra Modi has approved the continuation of the existing Non Lapsable Central Pool of Resources (NLCPR) scheme with funding pattern of 90:10 till March, 2020 with an outlay of Rs.5300.00 crore.
- It would enable completion of ongoing projects.
- Also approves introduction of new Scheme, NESIDS till March 2020
- The Union Cabinet also approved the introduction of new Central Sector Scheme of “North East Special Infrastructure Development Scheme” (NESIDS) from 2017-18 with 100% funding from the Central Government to fill up the gaps in creation of infrastructure in specified sectors till March, 2020.

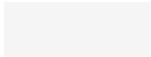
#### Features of NESIDS:

The new scheme will broadly cover creation of infrastructure under following sectors:-

1. Physical infrastructure relating to water supply, power, connectivity and specially the projects promoting tourism;
2. Infrastructure of social sectors of education and health.

#### Benefits of NESIDS:

1. The scheme will act as a catalyst in overall development of the region in the years to come.
2. Strengthen health care and education facilities in the region
3. Encourage tourism
4. Enhancing employment opportunities for local youth.



## Topic 2

### New Policy Initiatives By Railways

#### Relevancy:

- GS Prelims, GS Mains paper III
- Government policies and programmes, Infrastructure, Railways

#### Background:

- A number of new policy initiatives by Railways have been introduced since last few years.

#### Details are as follows:

1. FDI in Railways: The proposal has been cleared by Government for allowing 100 per cent FDI in Railway infrastructure, apart from operations, through automatic route.
2. High-speed bullet trains : Railways has announced a Bullet Train between Ahmedabad and Mumbai with MOU between Railways and Japan.
3. Policy initiatives for freight trains:
  - Long term tariff contract (LTTC) with key freight customers at predetermined price escalation principals.
  - For the first time ever in Indian Railways, freight rates were reduced.
  - Port congestion charges dropped.
  - Busy season surcharge dropped.
  - Dual pricing policy of iron withdrawn.

- Multi point loading introduced.
  - Siding policy liberalised .
  - Automatic freight rebate scheme in traditional empty flow direction introduced.
  - Time tabled freight services introduced.
  - Container sector opened up for more commodities.
  - Goods terminals opened up for handling containers.
  - Last mile connectivity through Roadrainers, Roll on Roll Offs Appointed Key Customer Managers to serve as single point of contact for all major freight customers.
  - Structured dialogue between Railways and Customers christened 'Samvad' started.
  - Electronic registration of Demand and Electronic transmission of Railway Receipts started.
  - Railway land leased out for horticulture and plantation of trees
4. **Discharge free Railways** – bio-toilets in all coaches.
  5. **SRESTHA** - New R&D organisation to serve the future technology needs of Railways.
  6. **SUTRA** World class data analytics, simulation softwares, network optimisation and decision support systems.
  7. **RAIL INVESTMENT AND PLANNING ORGANISATION** - Develop and own the corporate medium term and long term plan, identify investment opportunities, standardize economic easements of projects and propose optimal modes of financing.
  8. **'NIVARAN'** - online grievance redressal machinery has been instituted.
-

## Topic 3

### India-China-Russia: 15<sup>th</sup> Trilateral Meet

#### Relevancy:

- GS Mains paper II
- International Relations, India-China-Russia trilateral meeting

#### Recently:

- Russia, India and China reiterated their commitment to the United Nations and condemned terrorism in all its forms and manifestations including the recent heinous terrorist attacks around the world, in the 15th Russia-India-China (RIC) trilateral meet held in New Delhi, recently.

#### Details of the meeting:

##### Condemned terrorism in all its forms and manifestations:

- RIC, in a joint press statement, said: "We **condemn terrorism in all its forms and manifestations** including the recent heinous terrorist attacks around the world and reaffirm our determination to prevent and counter terrorism in all its forms and manifestations. We reaffirm that all acts of terrorism are criminal and unjustifiable irrespective of their motivations, committed wherever and by whomsoever."
- The three nations further called for **greater unity, stronger international partnership and concerted actions by the international community in addressing the menace of terrorism** in accordance with international law and the UN Charter, including the principles of sovereign equality of States and non-interference in their internal affairs.
- "We call for swift and effective implementation of existing international commitments on countering terrorism, including the **UN Global Counter-Terrorism Strategy**, relevant UN Security Council resolutions and targetted sanctions relating to terrorism and the **FATF**

**(Financial Action Task Force) International Standards** worldwide. We agree to strengthen cooperation to take decisive and concerted actions against globally proscribed terrorists and terror entities. We condemn all forms of terrorism and all terrorists, terror entities and organizations listed by the UN Security Council," the statement added.

#### **Arms race in Outer-Space:**

- Citing that prevention of **arms race in outer space** was one of the key factors of maintaining international peace and security, the statement mentioned that the three countries supported efforts in the **Conference on Disarmament** to elaborate an international legally binding instrument on the prevention of arms race in outer space, including, inter alia, on the prevention of the **placement of weapons in outer space** and threat or use of force against outer space assets and support the establishment of a UN Group of Governmental Experts to consider and make recommendations on substantial elements of the above-mentioned international legally binding instrument.
- "We are engaged in dialogue on issues related to the drafting, within the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space, of a set of guidelines for the long-term sustainability of outer space activities," the statement added.

#### **Other Issues:**

- RIC further commended **Russia-led counter-terrorism efforts and achievements in Syria** aimed at defeating international terrorism.
  - Apart from terrorism and disarmament, the foreign ministers of the three countries - Sushma Swaraj, Sergey Lavrov and Wang Yi - discussed the **political scenario in the Middle East and North Africa**, different challenges in putting world economy back on growth track, transnational organised crime, illicit drug trafficking, food security and climate change.
-

## Topic 4

### Bodhi Parva: BIMSTEC

#### Recently:

- The three days '**Bodhi Parva: BIMSTEC Festival of Buddhist Heritage**' was held in New Delhi.
- The Minister of State for Culture Dr. Mahesh Sharma underlined that the message of Lord Buddha is as relevant in the twenty first century as it was two and a half millennia ago and has been a unifying force among nations.
- The values of peace, accommodation, inclusiveness, and compassion that are part of our societies can be attributed to the influence of the teachings of Lord Buddha and Buddhism.

#### **BIMSTEC DMEx-2107**

- The First '**BIMSTEC Disaster Management Exercise- 2017**' (BIMSTEC DMEx-2017) was conducted by the National Disaster Response Force (NDRF) as the lead agency from October 10-13, 2017 in Delhi.
- This Exercise proved to be a platform for sharing Best Practices on all aspects of Disaster Risk Reduction (DRR), strengthening regional response and coordination for Disaster Management among the BIMSTEC member countries.

#### **About BIMSTEC:**

- The BIMSTEC states are among the countries dependent on the Bay of Bengal.
- The **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)** is an international organisation involving a group of countries in South Asia and South East Asia.
- These are: **Bangladesh, India, Myanmar, Sri Lanka, Thailand, Bhutan and Nepal.**
- BIMSTEC Headquarters are in Dhaka, Bangladesh.
- On June 06 this year, the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) completed 20 years of its establishment.
- However, despite its huge potential in terms of enhancing regional cooperation between parts of South and Southeast Asia, BIMSTEC has

long suffered from lack of resources and proper coordination among its member states.

- **BIMSTEC Meets:** So far, BIMSTEC has held only three summit meetings. The first one was held in Thailand in 2004, seven years after the establishment of the grouping; the second one was held four years later in India in 2008, and the third one six years later in Myanmar in 2014.
- The fourth summit meeting is expected to take place later this year in Nepal, the current Chair of BIMSTEC.

#### **Objectives of BIMSTEC:**

- The main objective of BIMSTEC is **technological and economic cooperation** among south Asian and southeast Asian countries along the coast of the Bay of Bengal.
- Commerce, investment, technology, tourism, human resource development, agriculture, fisheries, transport and communication, textiles, leather etc. have been included in it.
- So far, the seven-member grouping has identified 14 priority sectors and has signed a Free Trade Agreement (2004) and a Convention on Cooperation in Combating International Terrorism, Transnational Organised Crime and Illicit Drug Trafficking (2009).

#### **India's interests in BIMSTEC:**

- As a regional organization comprising seven Member States around the Bay of Bengal that brings together about one – fifth of the world population and a combined GDP of over US \$ 2.8 trillion, BIMSTEC has a crucial role in development of the region.
- BIMSTEC is a natural platform for India to fulfil its key foreign policy priorities of '**Neighbourhood First**' and '**Act East**'.
- A number of initiatives have been taken to promote cooperation in BIMSTEC under the focus areas of security, transport and communication, environment and disaster management, tourism, traditional medicine and people-to-people exchanges.
- The scope for direct connectivity with Southeast Asia via Northeast India and Myanmar, counter-terrorism and anti-insurgency cooperation with Myanmar and other members, potential access to alternative energy resources in Myanmar as well as economic opportunities available in the ASEAN region had evoked sufficient interest in New Delhi to join BIMSTEC.

#### **Interests of other BIMSTEC members:**

- I. **Myanmar:**

- It became a member at a time when the military *junta* in the country was facing serious international criticism.
- Membership in regional and sub-regional groupings like ASEAN and BIMSTEC provided its military rulers an opportunity to gain some sort of recognition among the regional stakeholders.
- Today, Myanmar sees itself as a gateway for BIMSTEC to ASEAN, primarily due to its strategic location between South and Southeast Asia.

#### II. **Thailand:**

- Thailand was looking for an opportunity to enhance its trade and connectivity with the South Asian countries under the ambit of its '**Look West**' policy.
- So, in a way, India's 'Look East' and Thailand's 'Look West' policy complemented each other within the ambit of BIMSTEC.
- The ongoing **India-Myanmar-Thailand Trilateral Highway** and the **India-Myanmar Kaladan Multimodal Transit Transport Project** are expected to further augment connectivity and economic cooperation in the sub-region and beyond.

#### III. **Srilanka:**

- Sri Lanka considers BIMSTEC as an opportunity to engage with the economically booming Southeast Asian countries, especially after several failed attempts to join ASEAN in the decade prior to the establishment of BIMSTEC.
- With India and Thailand as its important economic partners, Sri Lanka is looking forward to the implementation of BIMSTEC Free Trade Agreement and BIMSTEC Motor Vehicles Agreement.

IV. For the **land-blocked countries** like **Nepal and Bhutan**, BIMSTEC holds the prospect of **enhancing their connectivity** with the rest of the region.

### **Challenges**

- Though largely devoid of bilateral tensions, as is the case in SAARC, BIMSTEC does not seem to have made much progress.
- The so-called sluggishness in BIMSTEC last two decades is attributed to many factors.
- India, the largest member of the grouping, has often been criticised for not providing a strong leadership to BIMSTEC.

- Both Thailand and Myanmar are criticised for having ignored BIMSTEC in favour of ASEAN.
- This despite the fact that BIMSTEC was formed at a time when the ASEAN countries were suffering from severe financial crisis in 1997-98 and also as both Thailand and Myanmar experienced political turmoil in the following decade.
- The '**noodle bowl effect**' of regionalism too was at work as formation of another sub-regional initiative, the Bangladesh-China-India-Myanmar (BCIM) Forum, with the proactive membership of China, created more doubts about the exclusive potential of BIMSTEC.

**Note: Noodle (or Spaghetti) Bowl Effect:** It is an interesting phenomenon in trade economics where the increasing number of Free Trade Agreements (FTAs) between countries slows down trade relations between them.

---

## Topic 5

### Law Commission report on Convention against Torture

#### Relevancy:

- GS Prelims, GS Mains Paper II, IV
- Ethics and governance, UN Convention against torture, Law Commission report

#### Recently:

- Law Commission (under the chairmanship of Dr Justice BS Chauhan) has submitted report titled "Implementation of 'United Nations Convention against Torture and other Cruel, Inhuman and Degrading Treatment or Punishment' through legislation" to the Ministry of Law and Justice
- The Commission also submitted a draft Prevention of Torture Bill, 2017.

#### Background:

- India signed the convention on October 14, 1997 but has not ratified it so far.
- The matter was referred to the Law Commission in July 2017 following a recommendation by the Supreme Court.

#### Key observations and recommendations of the Commission include:

1. Ratification of convention: The Commission observed India has faced problems in extradition of criminals from foreign countries. This is because the convention prevents extradition to a country where there is danger of torture. It recommended that this issue should be resolved by ratifying the convention.

2. Definition of torture: The Commission observed that there is no definition of torture in the current Indian laws. According to the draft Prevention of Torture Bill, 2017, any public servant or an individual authorised by him indulges in an act of torture if they inflict on another person: (i) grievous hurt, (ii) danger to life, limb, or health, (iii) severe physical or mental pain, or (iv) death for the purpose of acquiring information or punishment.

3. Punishment for acts of torture: In order to deter the use of torture, the Commission recommended stringent punishments for individuals who commit such acts. According to the draft Prevention of Torture Bill, 2017, punishment for torture includes imprisonment up to 10 years and fine. In case torture leads to death, the punishment includes death or life imprisonment in addition to fine.

---

## Topic 6

### Machine learning and new planets

#### Relevancy:

- GS Prelims, GS Mains paper III
- Sci-tech, Space technology, Kepler telescope, Machine learning, new planets- Kepler 80g, Kepler 90i.

#### Recently:

- Google and NASA said that advanced computer analysis identified two new planets around distant stars, including one that is part of the first star system with as many planets as Earth's solar system.
- Astronomers had never before observed an eight-planet network beside the solar system that includes Earth
- Advancements in hardware and new techniques for machine learning have made it possible in recent years for automated software to tackle data analysis in science, finance and other industries

#### Machine Learning and Neural networks:

- The research by Google and the University of Texas at Austin that used data from NASA raised the prospects of new insights into the universe by feeding data into computer programmes that can churn through information faster and more in-depth than humanly possibly, a technique known as machine learning.
- In this case, software learned differences between planets and other objects by analysing thousands of data points, achieving 96% accuracy, NASA.
- The data came from the **Kepler telescope** which NASA launched into space in 2009 as part of a planet-finding mission that is expected to end next year as the spacecraft runs out of fuel.

- The software's artificial “**neural network**” combed through data about 670 stars, which led to the discovery of planets **Kepler 80g** and **Kepler 90i**.
  - The latter, a scorching, rocky mass 30% larger than Earth, is the eighth planet found to be orbiting the same star.
-

## Topic 7

### Scientists of Ancient India

#### MATHEMATICS & ASTRONOMY

##### Baudhayan

- Value of pi was first calculated by him
- Pythagoras theorem was first Baudhayan's Sulva Sutra

##### Aryabhata

- Wrote Aryabhattiya, which is a summary of mathematics of his time
- Discovery of zero enabled Aryabhata to find out the exact distance between the earth and the moon
- Khagol was the famous astronomical observatory at Nalanda, where Aryabhata studied. He contributed to the field of Astronomy also
- He also gave a scientific explanation for solar and lunar eclipse

##### Brahmgupta

- He wrote Brahm Sputa Siddantika
- He introduced negative numbers and operations on zero into mathematics

##### Bhaskaracharya

- Wrote Siddanta Shiromani
- It is divided into four sections: Lilavati (Arithmetic), Beejaganit (Algebra), Goladhyaya (Sphere) and Grahaganit (mathematics of planets).
- He introduced Chakrawat Method or the Cyclic Method to solve algebraic equations

##### Mahaviracharya

- Jain Guru Mahaviracharya wrote Ganit Sara Sangraha in 850A.D., which is the first textbook on arithmetic in present day form.
- LCM calculation was first described by him

#### MEDICAL SCIENCE

Ayurveda is the indigenous system of medicine that was developed in Ancient India

A treatise on Ayurveda, Atreya Samhita, is the oldest medical book of the world.

##### Susruta

- In Susruta Samhita, over 1100 diseases are mentioned including fevers of twenty-six kinds, jaundice of eight kinds and urinary complaints of twenty

kinds. The method of selecting and preserving a dead body for the purpose of its detailed study has also been described.

- Susruta's greatest contribution was in the fields of Rhinoplasty (plastic surgery) and Ophthalmic surgery (removal of cataracts).

Charak

- In Charak Samhita, more stress has been laid on removing the cause of disease rather than simply treating the illness.
- Charak also knew the fundamentals of Genetics.

Yoga & Patanjali

- Besides Yoga Sutras, Patanjali also wrote a work on medicine and worked on Panini's grammar known as Mahabhasaya

SCIENCE

Kanad

- Kanad was a sixth century scientist of Vaisheshika School
- His atomic theory can be a match to any modern atomic theory

Varahamihira (Gupta Period)

- Brhat Samhita.
- The book gives indication of signs of earthquake
- Varahamihira was one of the nine gems, who were scholars, in the court of Vikramaditya. Varahamihira's predictions were so accurate that king Vikramaditya gave him the title of 'Varaha'. He contributed to the field of astrology

Nagarjuna

- In his treatise, Rasaratnakara, he has discussed methods for the extraction of metals like gold, silver, tin and copper.
-

## Topic 7

## Detect Adulteration with Rapid Test (DART): FSSAI guidelines

### Relevancy:

- GS Prelims, GS Mains paper III
- Sci-tech, Health, FSSAI guidelines on food adulteration, DART

### Recently:

- The **Food Safety and Standards Authority of India (FSSAI)** has released a manual for quick detection of adulterants in everyday food items.
- The book “**Detect Adulteration with Rapid Test (DART)**” lists 41 easy tests that can be done at home..

### Here is a list of some tests you can do today at home:

#### Common adulterants

- Refrigerate coconut oil for 30 minutes. Coconut oil freezes; any other adulterant will remain on top as a separate layer.
- Mix a small amount of milk and water and shake it vigorously, if adulterated with detergents, the solution will form lather.
- Cut a piece of potato and sprinkle salt on it. Wait for a minute and add two drops of lemon juice to it. If it is iodised salt, blue colour will develop.
- Move a magnet through your flour, tea powder to check for iron fillings.
- Identify fungus in food grains by soaking them in salt solution. The fungus floats while the grains settle.

- Similarly papaya seeds float, whereas pepper sinks.
- When burned in a small spoon, asafoetida burns like camphor, if adulterated it will not produce a bright flame.

### **Detection of clay and chicory in coffee powder**

- Add coffee powder to water and stir. If coffee powder is adulterated, you can see clay and chicory moving to the bottom and settling.

### **Detection of artificial colours**

- In green peas, you can see the malachite green colour separate out when soaked in a glass of water.
- For vegetables like ladies finger, green chill and sweet potato, rub a piece of cotton soaked in vegetable oil on its surface. If coloured, you can see the cotton catch colour. You can do the test for ragi as well.
- Soak whole turmeric in water, if adulterated it will leave a bright yellow colour indicating the presence of lead chromate.

...

## Topic 8

### Pradhan Mantri Mahila Shakti Kendra (PMMSK)

#### Relevancy:

- GS Prelims, GS Mains paper I, II
- Government policies and programmes, Women Empowerment, PMMSK

#### Recently:

- The Cabinet Committee on Economic Affairs chaired by the Prime Minister Shri Narendra Modi has given its approval for expansion of the schemes of Ministry of Women and Child Development under Umbrella Scheme "**Mission for Protection and Empowerment for Women**" for a period 2017-18 to 2019-20.
- CCEA has also given approval to the new scheme called '**Pradhan Mantri Mahila Shakti Kendra**', which will empower rural women through **community participation** to create an environment in which they realize their full potential.
- Expansion under **Beti Bachao Beti Padhao** has also been approved based on the successful implementation in 161 districts.
- The financial outlay during 2017-18 to 2019-20 will be Rs.3,636.85 crore with a Central Share of approximately Rs.3,084.96 crore.

#### Benefits of the Scheme:

The approved sub-schemes are focussed on:

- a) care, protection and development of women,
- b) improvement in child sex ratio, and
- c) ensuring education for girls and empowering them.

- d) It will also aim at improvement in declining Child Sex Ratio; ensuring survival. & protection of the girl child; ensuring her education, and empowering her to fulfil her potential.
- e) It will provide an interface for rural women to approach the government for availing their entitlements and for empowering them through training and capacity building.
- f) Student volunteers will encourage the spirit of voluntary community service and gender equality. These students will serve "agents of change" and have a lasting impact on their communities and the nation.

### **How the scheme will be carried out?**

PMMSK is envisaged to work at the national, state, district, and block levels.

Key features of these changes include:

1. **Support to women:** Support to women affected by violence through 'One Stop Centres' to be established in 150 districts. These Centres will be linked with a helpline and will provide 24 hour emergency and non-emergency response to women affected by violence both in public and private spaces. There will be engagement of Mahila Police Volunteers on a voluntary basis in states/UTs to create public-police interface.
2. **Community engagement:** Community engagement through student volunteers in 115 most backward districts will be instituted as part of the PMMSK block level initiatives. These student volunteers will be part of awareness generation regarding various important government schemes as well as social issues.
3. **Monitoring and evaluation:** One task force will be created at the national, state and district levels for planning, reviewing and monitoring all the sub-schemes under the Mission. This is to ensure convergence of action and cost efficiency. Mechanism for monitoring the outcomes of all the sub-schemes will be suggested by NITI Aayog.