News Analysis (28 May, 2019)

BIMSTEC Heads Invited to PM's Swearing-in

India has **invited leaders of the seven BIMSTEC** (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation) **nations** for Prime Minister Narendra Modi's swearing-in ceremony on May 30. The President of the Kyrgyz Republic, Sooronbay Jeenbekov and the Prime Minister of Mauritius, Pravind Jugnauth are also the invitees.

- **Kyrgyzstan** has been invited as a **current chair of SCO** (Shanghai Cooperation Organization) and **Mauritius** is a key link in the plan to set up a **chain of military installations in the Indian Ocean**.
- According to available information, **the Prime Minister of Pakistan is not on the list of invitees**.
- India had invited leaders of all the SAARC (South Asian Association for Regional Cooperation) countries in the last swearing-in ceremony of the Prime Minister.

Why BIMSTEC and not SAARC?

- India has **shifted the focus to BIMSTEC since the last SAARC Summit,** which was scheduled to be held in Islamabad in November 2016, stalled after India and several other countries pulled out due to terror-related concerns.
    - The souring of ties with Pakistan has led the government to avoid the SAARC umbrella in order to ensure **Islamabad is excluded**.
    - BIMSTEC has Bangladesh, Bhutan, Myanmar, Nepal, Sri Lanka and Thailand besides India.
    - SAARC includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka
- The **culmination of both India's 'Neighbourhood First' and 'Act East'** happens in the region of the Bay of Bengal.
    - India's **Neighbourhood first policy** means working with neighbours in a way so that both sides feel their interests are being advanced. Through this policy,

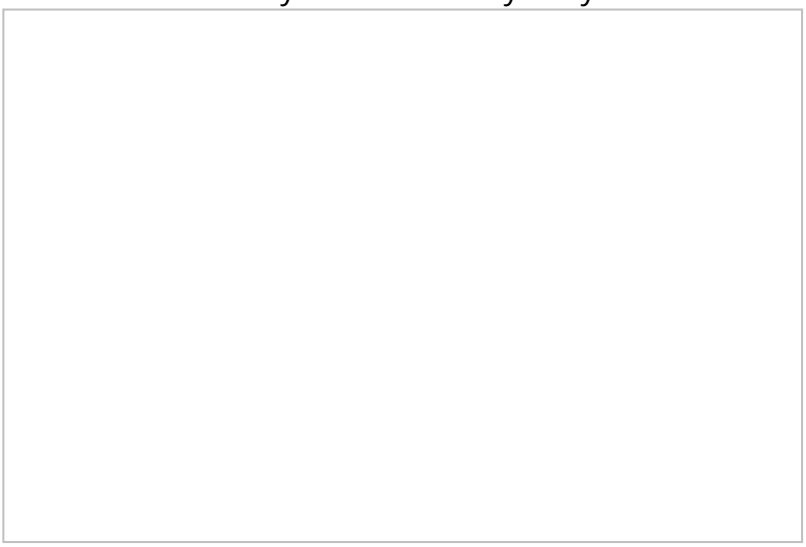
India wants to improve its ties with its immediate neighbours.

- India's **Act East Policy focuses on the extended neighbourhood in the Asia-Pacific region**. It provides an interface between North East India including the state of Arunachal Pradesh and the ASEAN region.

Architectural Heritage of Orchha

The architectural heritage of **Orchha town** has been included in the tentative list of UNESCO's world heritage sites.

- Orchha town in **Niwari district of MP's Bundelkhand region** has a peculiar style of architecture used by the Bundela dynasty.



- The town, located on the banks of river Betwa, around 80 km from MP's Tikamgarh district and 15 km from Jhansi district of UP, was built by **King Rudra Pratap Singh of Bundela dynasty** in the 16th century.
- If it makes it to the final list of UNESCO's World Heritage Sites, it would be the 38 th site in India to form part of the treasured list.

  Three historically famous sites in MP, including the rock shelters of **Bhimbhetka, Buddhist monuments at Sanchi, and the Khajuraho group of monuments** are among the 37 Indian heritage sites on the UNESCO list.

Orchha Architecture

- The word Orchha or Urchha means 'hidden'. The reason for this naming is because the Bundelkhand Kings wanted to retreat from the Tughlaqs who rose to power in 15th century.
- Established in 1501 by Maharaja Rudra Pratap Singh, Orchha has witnessed tough times as well as friendly relations with the Mughal Dynasty.
- Orchha architecture has a blend of Bundelkhandi and Mughal influences.The

structures are not only appreciated for their mesmerizing beauty but also for their intelligent engineering.

- The most fascinating of all the magnificent surroundings is the Orchha's Fort complex.
    - It is known for its **chaturbhuj temple**.
    - The grand Orchha Complex is divided into three mesmeric sections; **Jahangir Mahal, Raj Mahal and Sheesh Mahal**.
- The Raj Mahal was once the prime residence of Bundela kings and their queens.

    Secret alleys, steep stairs and exquisite murals depicting avatars of Lord Vishnu, whom the super religious king of Bundelkhand; Madhukar Shah worshipped, narrate the story of a powerful era gone by.

UNESCO's World Heritage Site List

- The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.
- This is embodied in an international treaty called the Convention concerning the **Protection of the World Cultural and Natural Heritage,** adopted by UNESCO in 1972.
- A World Heritage Site is a place that is listed by UNESCO for its special cultural or physical significance. The list of World Heritage Sites is maintained by the international ***'World Heritage Programme'***, administered by the UNESCO World Heritage Committee.

World's Rivers Contaminated with Antibiotics

Rivers around the world are contaminated with dangerous levels of antibiotics, with concentrations of antibiotics in some waterways exceeding safe levels by 300 times, a global team of scientists led by the University of York found.

Findings

- The Thames was contaminated with five antibiotics, including levels of ciprofloxacin — used to treat skin and urinary tract infections — that were three times what is considered safe.
- The most common antibiotic was a urinary tract infection antibiotic called trimethoprim, which was present in 307 of 711 sites tested.
- Bangladesh, Kenya, Ghana, Pakistan and Nigeria were home to the most contaminated rivers.
- Safe limits were most frequently exceeded in Asia and Africa. However, sites in Europe, North America and South America also had high levels of contamination

showing that antibiotic contamination was a “global problem”.

Route of contamination: Drugs get into rivers via human and animal waste, as well as leaks from wastewater treatment and drug manufacturing sources.

Concerns

- Scientists fear antibiotics in rivers cause **bacteria to develop resistance** meaning they can no longer be used in medicines for humans.
- The UN estimates that the rise in **antibiotic resistance could kill 10 million people** by 2050.
- A lot of the resistance genes we see in human pathogens originated from environmental bacteria.

- **Antimicrobial resistance** happens when germs like bacteria and fungi develop the ability to defeat the drugs designed to kill them.
- Microorganisms that develop antimicrobial resistance are sometimes referred to as **"superbugs"**.
- As a result, the medicines become ineffective and infections persist in the body, increasing the risk of spread to others.
- New resistance mechanisms are emerging and spreading globally, threatening our ability to treat common infectious diseases, resulting in prolonged illness, disability, and death.
- Without effective antimicrobials for prevention and treatment of infections, medical procedures such as organ transplantation, cancer chemotherapy, diabetes management and major surgery (for example, caesarean sections or hip replacements) become very high risk.

Solving the problem is going to be a mammoth challenge and will need investment in infrastructure for waste and wastewater treatment, tighter regulation and the cleaning up of already contaminated sites.

Superconductivity at Room Temperature

Scientists of Institute of Science (IISc), have confirmed superconductivity at room temperature.

- Till now, scientists have been able to make materials superconductor only at temperatures much below 0°C and hence making practical utility very difficult.
- The material used in this research is nanosized films and pellets made of silver nanoparticles embedded in a gold matrix.
    - Two of the most important properties of superconductivity are diamagnetism

and zero resistance. It suggests that the material becomes superconducting below a certain temperature (286 K or 13°C). and it can go up to 70°C.
    - There is a clear transition from a normal state to a superconducting state at 286 K
    - Interestingly, silver and gold independently do not exhibit superconductivity.

Controversies

- The scientists from Tata Institute of Fundamental Research (TIFR) Mumbai have raised concerns that while the drop in mutual inductance is fairly sharp, it is at a lower temperature compared with resistance.
- In superconductivity when the resistance goes to zero the diamagnetic drop should coincide with resistance drop. Here the resistance drops to zero at 175 K but the diamagnetic drop is at 165 K. This kind of difference between resistance and diamagnetic drop is unusual.

Superconductor

- Superconductors are materials that conduct electricity with no resistance. Unlike the more familiar conductors such as copper or steel, a superconductor can carry a current indefinitely without losing any energy. They also have several other very important properties, such as the fact that no magnetic field can exist within a superconductor.
- Another property of a superconductor is that it will exclude magnetic fields, a phenomenon called the Meissner effect.
- The disappearance of electrical resistivity was modelled in terms of electron pairing in the crystal lattice by John Bardeen, Leon Cooper, and Robert Schrieffer in what is commonly called the BCS theory.
- Advantage of superconductors:
    - Currently, superconductivity can only be achieved at temperatures far below zero, in processes that are too expensive for wider application.
    - The devices have low power dissipation, high operating speed, and extreme sensitivity.
    - Devices built with room temperature superconductors tend to be extremely efficient and entail large savings in both energy and costs.
- Application: Superconductors already have drastically changed the world of medicine with the advent of MRI machines, which have meant a reduction in exploratory surgery.

        Power utilities, electronics companies, the military, transportation, and theoretical physics have all benefited strongly from the discovery of these materials.

Meissner effect

> When a material makes the transition from the normal to the superconducting state, it actively excludes magnetic fields from its interior; this is called the Meissner effect. This constraint to zero magnetic fields inside a superconductor is distinct from the perfect diamagnetism which would arise from its zero electrical resistance.

Critical temperature

- The **critical temperature** for superconductors is the temperature at which the electrical resistivity of metal drops to zero.
- The transition is so sudden and complete that it appears to be a transition to a different phase of matter; this superconducting phase is described by the BCS theory.

Diamagnetism

> Diamagnetism is a very weak form of magnetism that is induced by a change in the orbital motion of electrons due to an applied magnetic field. This magnetism is nonpermanent and persists only in the presence of an external field. The magnitude of the induced magnetic moment is very small, and its direction is opposite to that of the applied field.

Draft Export Policy Unveiled

The Commerce Ministry has released a **product specific draft export policy**.

> Updated draft comprises of **all existing policy conditions, all notifications and public notices** issued after January 2018 and also includes **non-tariff regulations** imposed by different government agencies.
>
> > Draft export policy, aimed at consolidating export norms for each product, has accorded **eight digit HS codes** to every product.

ITC (HS) codes are better known as Indian Trade Clarification (ITC) and are based on Harmonized System (HS) of Coding.

- It was adopted in India for import-export operations. Indian custom uses an eight digit ITC (HS) code to suit the national trade requirements.
- ITC-HS codes are divided into two schedules. Schedule I describe the rules and **exim guidelines** related to import policies.
- **Export Policy Schedule II** describe the rules and regulation related to **export policies**.

> This compendium will help an exporter know all the applicable norms pertaining to a

particular product, helping them understand policy conditions for that item.

About Export Import Policy of India

- **Exim Policy** or **Foreign Trade Policy** is a set of guidelines and instructions established by the **DGFT** in matters related to the import and export of goods in India.
- Foreign trade in India is guided by the **EXIM Policy** of the Indian Government and is regulated by the **Foreign Trade Development and Regulation Act, 1992**.

DGFT (Directorate General of Foreign Trade) is the main governing body in matters related to Exim Policy. The main objective of the **Foreign Trade (Development and Regulation) Act** is to provide the development and **regulation of foreign trade** by facilitating imports into, and augmenting exports from India. Foreign Trade Act has replaced the earlier law known as the Imports and Exports (Control) Act 1947

Objectives

Exim policy or Foreign Trade Policy for the years 2015-20, aims at doubling the overseas sales to $900 billion by 2019-20 and making India global,while integrating the foreign trade with “Make in India” and “Digital India Programme”.

Features

- **MEIS scheme:** Five existing schemes to promote merchandize exports have been merged into a single Merchandise Exports from India Scheme (MEIS).
  The incentives are to be provided in the form of duty scrips as % of FOB (free on board) value of exports.
- **Service Exports from India Scheme (SEIS)** will be only for India based service providers and will be based on net foreign exchange earned.
  Both **SEIS and MEIS schemes are applicable to SEZ units**.
- **Paperless Trade and Online filling of forms** will ensure trade facilitation and ease of doing business.
- **E-commerce export** is applicable to items of worth upto 25,000.
- Provision for **Export oriented units, Export hardware technology park and software technology park**.
- **The Duty free scrips** (form of credit)s are provided to the exporters under various export promotion schemes of the government.The scrips may be transferable or nontransferable.

SEBI Has Tightened Disclosure Norms for Listed Debt Securities

The capital market watchdog, **Securities and Exchange Board of India (SEBI), has asked debenture trustees (DTs) to enhance their disclosures for listed debt securities** to protect investor interest.

- The debenture trustee shall **disclose the nature of compensation arrangements with its clients on their websites,** including the minimum fee to be charged (in absolute terms or as a percentage of the issue size) and factors determining the same.
- DTs will have to display on their websites the **details of interest and redemption due on debenture holders** in respect of all the issues during a financial year **within five working days from the start of a financial year**. They will also have to update such details for any new issues handled during the financial year within five days of closure of the issue.
- The **status of payments has to be updated within one day of the due date,** which effectively means that any **default or delay will be disclosed** within a day of the due date.
- **For privately-placed debt securities,** SEBI has made it mandatory for the inclusion of a clause stating that **at least 2% per annum interest would be paid over the coupon rate in case of a default** in meeting the payment obligations. The additional interest would be payable by the company for the tenure of the defaulting period.

Debenture: It is an instrument of debt executed by the company acknowledging its obligation to repay the sum at a specified rate and also carrying an interest. It is one of the methods of raising loan capital of the company.

The basic distinction being, when one buys the shares of the company he becomes the part owner of the company, but when one buys debentures issued by the company he becomes a creditor to the company. We can conclude that debenture is a kind for formal loan given to the company by another individual. The company is under obligation to repay the loan within a specified period of time with interest.

Debenture Trustee: A debenture trustee is one that serves as the holder of debenture stock for the benefit of another party. When a company is looking to raise capital, one method of accomplishing this is by issuing stock as a form of debt with obligation to repay the debt at a specific interest rate. The trustee serves as a liaison between the company that issued the debentures and the debenture holders that collect interest payments.

Change in the Provision of the Domestic Violence Act

In a significant judgement that will ensure more equity in any case of marital discord, a two-judge bench of Supreme Court reinterpreted the provisions of the **Domestic Violence Act of 2005**.

Background

- A Bench of Justices D.Y. Chandrachud and Hemant Gupta interpreted the provisions of the Domestic Violence Act of 2005 to confirm an order of a Panipat Sessions Judge that respondent should pay maintenance to the widow and minor child of his dead brother.
- Both brothers lived in the ancestral family home on different floors. After the brother's death, the widow was not permitted to live in the same house.

What's the New Provision?

The supreme court defined "relationship" in the case of **Hindu undivided family (HUF)**.

- According to the court, relationship in case of HUF means "relationship where two persons live or have lived together at any point of time in a shared household when they are related by consanguinity, marriage or through a relationship in the nature of marriage, adoption or are members living together as a joint family".
- The court further read the term **"shared household"** to include "such a household which may belong to the joint family of which the respondent is a member, irrespective of whether the respondent or the aggrieved person has any right, title or interest in the shared household".

Important Facts For Prelims (28th May 2019)

Pobitora Wildlife Sanctuary

POBITORA WILDLIFE SANCTUARY harbors the **highest density** of Rhino in **the world** and **second highest concentration of Rhino in Assam** after Kaziranga National Park.

About Pobitora Wildlife Sanctuary

- **Pobitora Wildlife Sanctuary,** situated in the **flood plains of River Brahmaputra** in the district of Morigaon and about 45 kms from Guwahati, the capital of Assam, India.
- **90 plus rhinos are surviving on merely 16 square kilometre area of the park.** Pobitora has exceeded its rhino-bearing capacity and is overpopulated. Thus Pobitora Wildlife Sanctuary harbors world's highest density of rhinoceros.
- Besides rhinoceros, the **other mammals found are Leopard, Leopard cat, Fishing cat, Jungle cat, Feral Buffalo, Wild pigs, Chinese pangolins etc.**
- In winter, **Pobitora becomes a birder's heaven,** with thousands of waterfowl thronging the wetlands.
- Pobitora can be divided into **three distinct categories: forest, grassland and water**

bodies or beels.

Akash Mk1S

Defence Research and Development Organisation (DRDO) has successfully test fired AKASH-MK-1S missile from ITR, Chandipur, Odisha.

- Akash MK1S is an upgrade of existing AKASH missile with **indigenous Seeker**. It is a surface to air missile which can neutralize advanced aerial targets.
- The Akash weapon system has combination of both command guidance and active **terminal seeker guidance**.
- The missile was developed as part of **Integrated Guided-Missile Development Programme (IGMDP)** other than Nag, Agni, Trishul, and Prithvi missiles.
    - Akash missile is a medium range Surface to Air Missile with multi-target engagement capability.
    - The supersonic Akash missile has a range of around 25 km and altitude of 18,000m. The missile uses high-energy solid propellant for the booster and ramjet-rocket propulsion for the sustainer phase.

Indigenous seeker technology

- Indian-made seeker provides a designated trajectory to missile and hit the pre set target with pin-point accuracy.
- Mastering it is a significant milestone in missile technology and would reduce import dependence. Earlier India used to be dependent on Russia for seeker technology.
