6th June, 2024

1. India's TB Elimination Drive
GS 2 (Health)

- **Why in the News:** A paper titled 'Progress and challenges in achieving tuberculosis elimination in India by 2025: A systematic review and meta-analysis' notes that India faces a daunting challenge in its fight against TB.

- **About Tuberculosis (TB):**

  - Tuberculosis (TB) is a **bacterial infection** spread through inhaling tiny droplets from the coughs or sneezes of an infected person.
  - It mainly affects the lungs, but it can affect any part of the body, including the tummy (abdomen), glands, bones and nervous system.
  - TB is a potentially serious condition, but **it can be cured if it's treated with the right antibiotics**.

- **Symptoms of TB:**

  - Persistent cough that lasts more than 3 weeks and usually brings up phlegm, which may be bloody,
    - Weight loss,
    - Night sweats,
    - High temperature,
    - Tiredness and fatigue,
    - Loss of appetite,
    - Swellings in the neck.

- **Types of TB:**

  - **Pulmonary TB:**
    - TB that affects the lungs (pulmonary TB) is the most contagious type, but it usually only spreads after prolonged exposure to someone with the illness.
    - In most healthy people, the body's natural defence against infection and illness (the immune system) kills the bacteria and there are no symptoms.

  - **Latent TB:**
    - Sometimes the immune system cannot kill the bacteria, but manages to prevent it spreading in the body.
    - You will not have any symptoms, but the bacteria will remain in your body. This is known as latent TB.
    - People with latent TB are not infectious to others.

  - **Active TB:**
    - If the immune system fails to kill or contain the infection, it can spread within the lungs or other parts of the body and symptoms will develop within a few weeks or months. This is known as active TB.
    - About one-quarter of the world's population is estimated to be infected by TB bacteria but out of these **only 5-15% of people will fall ill with active TB disease.**
    - Latent TB could develop into an active TB disease at a later date, particularly if your immune system becomes weakened.

Health Ministry reworks protocol as country's TB elimination drive plateaus

Bindu Shajan Perappadan
NEW DELHI

India's goal to achieve rapid decline in the burden of tuberculosis (TB) morbidity and mortality, while working towards the elimination of TB in the country by 2025, has plateaued, a senior Health Ministry official said.

The Indian Council of Medical Research (ICMR) is looking at reworking the protocol, the official added, specifically TB medication and its duration, to reboot the TB-free initiative for eliminating deaths, disease, and poverty resulting from the infection.

According to the Health Ministry, India has been engaged in TB control activities for more than 50 years, yet the disease continues to be the country's severest health crisis.

TB kills an estimated 4,80,000 Indians every year or over 1,400 patients every day.

Additionally, the country also has more than a million 'missing' TB cases annually, which are not notified. Most remain either undiagnosed, or inadequately diagnosed and treated in the private sector.
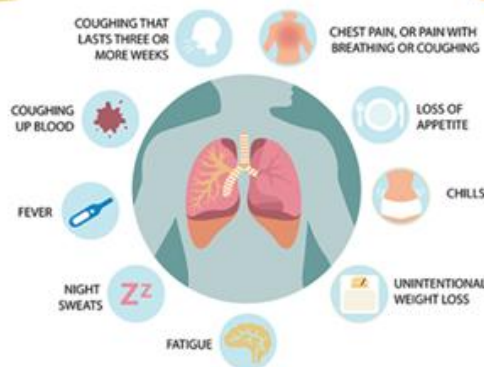
Better preparation
"We are sure that this tragic loss of life, and continued suffering and poverty, needs to end. There are several new technologies which help in early detection and we are also better prepared to address TB. We now have advanced and effective interventions and technologies for diagnosis, treatment and care of TB," the official said.

The Ministry, however, maintains there is a need to recognise that more needs to be done to drastically reduce the incidence of TB in India.

Tuberculosis kills an estimated 4,80,000 Indians every year.

SIGN AND SYMPTOMS OF ACTIVE TB
- COUGHING THAT LASTS THREE OR MORE WEEKS
- CHEST PAIN, OR PAIN WITH BREATHING OR COUGHING
- COUGHING UP BLOOD
- LOSS OF APPETITE
- FEVER
- CHILLS
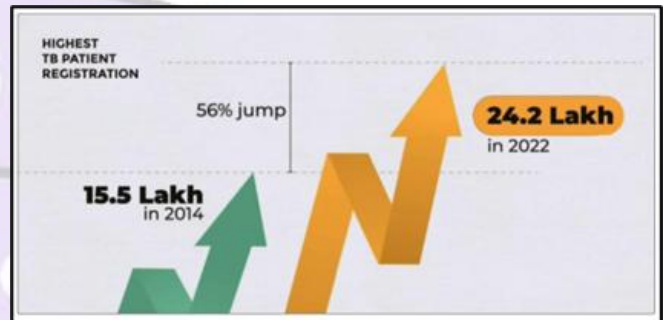- NIGHT SWEATS
- UNINTENTIONAL WEIGHT LOSS
- FATIGUE

- **Treatment:**

  - With treatment, TB can almost always be cured.
    - A course of antibiotics will usually need to be taken for 6 -18 months.
  - Several different antibiotics are used because some forms of TB are resistant to certain antibiotics.
- **Tuberculosis in India:**

  - **The total number of incident TB patients (new and relapse) notified during 2021 in India were 19.33 lakh as opposed to that of 16.28 lakh in 2020.**

  - In 2022, 24.22 lakh cases of TB were registered in the country.
  - India continues to have the **largest share of the global TB burden**.
  - India's **National TB Elimination Programme** is strengthened to **meet the goal of ending the TB epidemic by 2025 from the country, five years ahead of the Sustainable Development Goals (SDG) for 2030.**
  - The **National Strategic Plan for Tuberculosis Elimination (2017-2025)** was developed to achieve the goal.
  - Though the National Strategic Plan for Tuberculosis Elimination (2017-2025) outlined a paradigm shift in approach and strategy to achieve the ambitious goal, by 2020, it became clear that the NSP will not be able to meet these objectives.
  - A new **National Strategic Plan for Tuberculosis Elimination (2020-2025)** to end TB was launched.
- **Challenges Associated with TB Eradication in India:**

  - Challenges with regard to this illness in India include –
    - Poor primary health-care and infrastructure in rural areas;
    - Unregulated private health care;
    - HIV induced TB cases;
    - Lack of hygiene facilities and widespread malnourishment and poverty.
  - The main variables that help understand tuberculosis transmission are rapid unplanned urbanization, overcrowding, poor airborne infection control, poor nutrition, HIV, diabetes and tobacco use.
- **Way Forward:**

  - Focus should be on understanding the key determinants like poverty, under- nutrition and tobacco smoking.
  - This is so that prevention is the approach and not cure. In addition to this the gaps in the public healthcare system must be addressed as this is the main medium through which millions of Indians seek treatment.
  - Although the Revised National Tuberculosis Control Program has worked toward improving the diagnosis of patients with free tests, free TB drugs, extended adherence support to increase rates of TB treatment, completion and involvement of private healthcare providers, there is more that can be done.
- **Challenges in achieving tuberculosis elimination in India by 2025:**

  - A paper titled 'Progress and challenges in achieving tuberculosis elimination in India by 2025: A systematic review and meta-analysis' notes that India faces a daunting challenge in its fight against TB.
  - The mortality rate, excluding HIV co-infected individuals, was **approximately 450,000 in 2021**, highlighting the severe impact of TB on the country's public health landscape.
  - The Indian Council of Medical Research (ICMR) is looking at reworking the protocol, specifically TB medication and its duration.
  - The objective is **to reboot the TB-free initiative with zero deaths, disease, and poverty resulting from the disease**.

2. When Jailed Leaders Win the Election
GS 2 (Elections)

- **Why in news:**

  - Jailed leaders Amritpal Singh and Engineer Rashid, who ran as independent candidates in the Lok Sabha elections, have won the election.

  - Both the leaders are currently in prison on serious charges that are being probed by the National Investigation Agency.

  - As per the Indian laws, despite facing criminal charges, they were eligible to contest election unless convicted. However, like other accused persons in Indian prisons, they were barred from voting in the recently held elections.

- **What are the charges on both the leaders?**

  - **Amritpal Singh**
    - Amritpal Singh, the leader of Waris Punjab De, was arrested in 2023 under the National Security Act (NSA) after going into hiding during a crackdown on his Sikh separatist group.
    - The NSA is a law that allows the government to detain people for up to 12 months without formal charges.
    - He has been in prison in Dibrugarh, Assam, since then.
  - **Engineer Rashid**
    - Engineer Rashid, a two-time MLA and founder of the Jammu and Kashmir Awami Ittehad Party, won the Baramullah seat against former Chief Minister Omar Abdullah.
    - He has been in jail for the past five years.
    - Rashid was arrested in 2019 under the Unlawful Activities Prevention Act (UAPA) on charges of money laundering related to terror funding.

- **What happens when jailed leaders win polls?**

  - Even though they are in prison, winning the Lok Sabha elections means Amritpal and Rashid are now parliamentarians.
  - Now, they have a constitutional mandate as parliamentarians, which starts with them taking oath.
  - **Taking Oath as Parliamentarians**
    - Taking oath is the first step for Amritpal and Rashid to fulfill their roles as parliamentarians.
    - **Although not explicitly stated in the Constitution**, jailed lawmakers have been granted **temporary parole** in the past to take their oaths.
  - **Past Instances of Parole for Oath Taking**
    - **Sanjay Singh (March 2021)**
      - The Aam Aadmi Party leader, imprisoned in Tihar on money laundering charges, was granted permission by a court to take his oath as a Rajya Sabha MP for a second term.
      - The court directed the jail superintendent to ensure his secure transport to Parliament and back.
    - **Akhil Gogoi (2021)**
      - After winning from Sibsagar, Assam, an NIA court allowed Akhil Gogoi to temporarily leave prison to take his oath as a member of the Assam Legislative Assembly.
    - **George Fernandes (1977)**
      - The trade unionist was elected from the Muzaffarpur seat while in jail during the Emergency.
      - He was released from prison before the oath ceremony.
  - **Duties as a lawmaker**
    - **Being allowed to take the oath is not the same as being released on bail.** It is more like a special parole for a day.
    - After taking the oath, the jailed lawmaker must write to the Speaker to explain that they cannot attend the proceedings.
    - This is crucial because **Article 101(4) of the Constitution states that if an MP is absent from all meetings for over 60 days without permission, their seat will be declared vacant.**

- To attend a Parliament session or cast a vote, the lawmaker must get court permission.
- **Disqualification from the Parliament**
    - Section 8 of the Representation of People Act, 1951 (RP Act) is titled **"Disqualification on conviction for certain offences"**.
    - It mandates that individuals convicted of **specified offences are disqualified from contesting elections to Parliament or state legislatures from the date of conviction.**
    - Hence, as per the current law, only a conviction and a sentence of two or more years will lead to disqualification from Parliament.
    - Additionally, they face a six-year disqualification period from contesting elections, starting from the date of their release.

3. Special Category Status
GS 2 (Constitution)

- **Why in News:**
    - With the General Elections throwing up a fractured mandate, Nitish Kumar's Janata Dal (United) and Chandrababu Naidu's Telugu Desam Party are set to play a key role in government formation at the Centre.
    - As a result, their past demands for special category status (SCS) for Bihar and Andhra Pradesh, respectively, are back in focus.

- **What is the Special Category Status (SCS)?**
    - **Meaning:** To be able to get the status, **states have to fulfil the following requirements** (based on Gadgil formula):
        - They need to have hilly and difficult terrain.
        - They need to have low population density and /or a sizable share of the tribal population.
        - They must be in a strategic location along borders with neighbouring countries.
        - They must be economically and infrastructurally backward.
        - They must have a non-viable nature of state finances.
    - **Evolution of the idea of SCS:**
        - **It was introduced in 1969** on the recommendations of the **Fifth Finance Commission** (chaired by Mahavir Tyagi) to benefit certain backward states.
        - At that time, this was provided to **Assam, Jammu and Kashmir and Nagaland**.
        - The idea of SCS was first formalised in April 1969 when the **Gadgil formula** of fund allocation was cleared by the National Development Council (NDC).
            - On the basis of this formula, more states were given the SCS when they attained statehood.
            - These include Himachal Pradesh in 1970-71, Manipur, Meghalaya and Tripura in 1971-72; Sikkim in 1975-76; Arunachal Pradesh and Mizoram in 1986-87 and Uttarakhand in 2001-02.
    - **Which states have the SCS?**
        - Currently, **11 states** have the SCS in the country including **Assam, Nagaland, Himachal Pradesh, Manipur, Meghalaya, Sikkim, Tripura, Arunachal Pradesh, Mizoram, Uttarakhand, and Telangana**.
        - **Telangana**, the newest state of India, is accorded the status as it was carved out of another state - Andhra Pradesh, which hit the state's finances.
        - Along with AP and Bihar, Odisha is another state demanding SCS.
    - **What benefits do states with SCS enjoy?**
        - Benefits to these states included getting Central assistance of as much as **90% in the form of grants and 10% loan** for centrally sponsored schemes.
        - **For Non-SCS**, the Normal Central Assistance was calculated as 30% grant and 70% loan.
        - SCSs were also provided **Special Plan Assistance** for projects of special importance to the state.

Special Category question

TDP chief Chandrababu Naidu's earlier push for Special Category Status during 2014-18 had failed, but this time the BJP desperately needs his support. What is SCS, and why does AP want this?

◆ Further, **unspent funds** do not lapse at the end of the financial year.
◆ They also get **tax concessions** although many tax benefits have now been subsumed under the goods and services tax regime.

● **Why Bihar and AP Demanding SCS and its Feasibility?**

■ **Bihar:**
◆ Bihar has been asking for it ever since the **mineral-rich Jharkhand was carved out** of it back in 2000.
◆ Bihar has been **ranked as the poorest state** in India, according to the Centre's Multidimensional Poverty Index (MPI) report.
◆ It is estimated to have nearly 52% of its population, without having proper access to requisite health, education and living standards.
◆ While the state meets most of the criteria for the SCS, **it does not fulfil the criteria of hilly terrain and geographically difficult areas.**

■ **AP:**
◆ After its bifurcation in **2014**, the then UPA government at the Centre had promised to grant SCS to AP **to compensate for the loss of revenue and of Hyderabad**, where much of the development was concentrated.
◆ Today's AP is essentially an agrarian state, with low economic buoyancy, leading to huge revenue disabilities.
◆ **SCS would mean higher grants-in-aid to the state government from the Centre.** To illustrate, per capita grants to SCSs is Rs 5,573 crore per year, whereas AP receives only Rs 3,428 crore.

■ **Feasibility:**
◆ According to the **14th Finance Commission**, the SCS was a **burden on the Centre's resources** and this has been used by the central government to reject SCS to more states.
◆ In order to plug the resource gap without extending SCS, tax devolution to states has been raised to **42%** as recommended by the 14th FC and has been maintained by the 15th FC (41%).
◆ However, with the **16th FC** already set up and working on the formula for tax devolution between the Centre and states for the five-year period starting April 1, 2026, granting special category status to these two states may be a simpler task.

4. Musankwa sanyatiensis
GS 3 (Science and tech)

● **Why in News:** Fossils found on the shoreline of Lake Kariba in Zimbabwe represent a completely new dinosaur species named Musankwa sanyatiensis.

● **About Musankwa sanyatiensis:**
■ It is a **new dinosaur species** which has been identified from fossils discovered along the shores of **Lake Kariba in Zimbabwe**.
■ The dinosaur's genus name, "Musankwa," was the name of the houseboat scientists used during their expeditions to the research site.
■ In addition, its species name, "sanyatiensis," alludes to the **Sanyati River** that flows into Lake Kariba.
■ It is the **first dinosaur to be named from the Mid-Zambezi Basin** of northern Zimbabwe in over 50 years.
■ Additionally, it is only the fourth dinosaur to be named from Zimbabwe, following the descriptions of "Syntarsus" rhodesiensis in 1969, Vulcanodon karibaensis in 1972, and, most recently, Mbiresaurus raathi in 2022.
■ The rocks yielding this new specimen date back to the **Late Triassic period**, approximately **210 million years ago.**
■ Musankwa sanyatiensis is represented by the remains of a single hind leg, including its thigh, shin, and ankle bones.
■ Evolutionary analysis reveals that it was a **member of the Sauropodomorpha**, a group of bipedal, long-necked dinosaurs that were widespread during the Late Triassic.
■ Interestingly, it appears to be closely related to contemporaries in South Africa and Argentina.
■ Weighing in at around 390 kg, the **plant-eating** Musankwa sanyatiensis was one of the larger dinosaurs of its era and **mostly lived in swamp areas.**

5. Maharani Temple
GS 1 (Art and Culture)

- **Why in News:** In a tragic event, the iconic Maharani Temple in Gulmarg, located atop a hillock was gutted in a blaze.
- **About Maharani Temple:**
  - It is situated on a small hillock in the heart of Gulmarg town in the Baramulla district of **Jammu and Kashmir**.
  - Also known as the Rani Temple or **Mohineshwar Shivalaya**, the temple is **dedicated to Lord Shiva** and his consort, Parvati.
  - It was **constructed by Mohini Bai Sisodia**, wife of the former ruler of Kashmir, Maharaja Hari Singh, in 1915.
  - This temple was once a royal temple of the **Dogra dynasty** of the erstwhile princely state of Jammu and Kashmir.
  - It has been constructed in such a way that it can be **seen from all corners of Gulmarg.**
  - The temple's intricate carvings and designs reflect a beautiful **blend of Indian and Persian styles.**
  - It is an example of religions intertwined with a **Muslim priest performing rituals** in the temple.
  - The **Indian Army collaborated with local communities in 2021 to restore this 106-year-old temple**. Apart from renovating the temple structure, the Indian Army also undertook the redesigning of pathways leading to the temple.

6. PraVaHa Software
GS 3 (Science and Tech)

- **Why in News**: The Indian Space Research Organisation (ISRO) recently developed Computational Fluid Dynamics (CFD) software named PraVaHa.
- **About PraVaHa Software:**
  - **Parallel RANS Solver for Aerospace Vehicle Aero-thermo-dynamic Analysis** (PraVaHa) is a Computational Fluid Dynamics (CFD) software developed in ISRO's Vikram Sarabhai Space Centre (VSSC).
  - It can **simulate external and internal flows** on launch vehicles, winged and non-winged re-entry vehicles.
  - PraVaHa has been extensively used in the **Gaganyaan** program for aerodynamic analysis of human-rated launch vehicles, viz, HLVM3, Crew Escape System (CES), and Crew Module (CM).
  - The software is **secure and flexible** enough to support collaborative development with academic institutions and government labs.
  - Currently, the PraVaHa code is operational to **simulate airflow for Perfect Gas and Real Gas conditions.**
  - Validations of the code are underway for simulating the effects of chemical reactions that occur during air dissociation upon 'earth re-entry' and 'combustion' as in scramjet vehicles.
  - PraVaHa is expected to replace most of the **CFD simulations for aero characterisation**, which are currently being carried out using commercial software.
  - Besides, this software is expected to help academia and other institutions engaged in the design of missiles, aircraft, and rockets to find solutions to complex aerodynamic problems.
- **Importance of Computational Fluid Dynamics (CFD):**

  - Initial aerodynamic design studies for **launch vehicles demand evaluation** of a large number of configurations.
  - Any aerospace vehicle moving through the Earth's atmosphere during launch or reentry is subjected to severe aerodynamic and aerothermal loads in terms of external pressure and heat flux.
  - **Understanding the airflow** around aircraft, rocket bodies, or CM during earth re-entry is essential to design the shape, structure, and Thermal Protection System (TPS) required for these bodies.
  - The **unsteady part of aerodynamics contributes to serious flow issues** around such rocket bodies and creates significant acoustic noise during the mission.
  - CFD is one such **tool to predict the aerodynamic and aerothermal loads,** which solve numerically the equations of conservation of mass, momentum, and energy along with the equation of state.

7. Tele-MANAS
GS 2 (Governance)

- **Why in News:** A Memorandum of Understanding (MoU) was signed between the Ministry of Health and Family Welfare (MoHFW) and the Ministry of Defence (MoD) to facilitate collaboration between the two ministries in operating a special cell of Tele MANAS.
- **About Tele-MANAS:**
  - **The Tele Mental Health Assistance and Networking Across States** (Tele-MANAS) initiative was launched by the **Ministry of Health and Family Welfare** in October 2022.
  - It aims to provide **free tele-mental health services** all over the country round the clock, particularly to people in remote or underserved areas.
  - Tele-MANAS will be organised in a **two-tier system:**
    - **Tier 1** comprises state Tele-MANAS cells, which include trained counsellors and mental health specialists.
    - **Tier 2** will comprise specialists at the District Mental Health Programme (DMHP)/Medical College resources for physical consultation and/or e-Sanjeevani for audio-visual consultation.
  - Currently, there are 51 operational Tele-MANAS cells functioning across all 36 States and UTs, offering services in **20 different languages**.
  - A **toll-free,** 24/7 helpline number (14416) is available as part of the initiative, allowing callers to select the language of choice for availing services. The service is also accessible at 1-800-891-4416.
  - This call will be an **Interactive Voice Response system (IVRS)** based audio call only, with a timely auto-call back approach.
  - Through the automated callback service, the caller will first be attended to by a **trained counsellor**.
  - Based on the level of care required, the counsellor will either provide the care needed within their capabilities or refer the caller for specialist care.
  - If the caller requires specialized care, the call will be handled by a **mental health specialist** (clinical psychologist, psychiatric social worker, psychiatric nurse, or psychiatrist). This level of service will **contain both audio- and video-based options**.
  - In case the caller requires urgent in-person intervention/complex evaluations and management, they will be referred to the **nearest in-person service** for a physical consultation, and/or an audio-visual consultation with a specialist will be arranged through **eSanjeevani.**
  - These centers will range from Health and Wellness Centre (HWCs) to tertiary care centers as part of the DMHP.

MCQ Current Affairs
6th June, 2024

1. Consider the following statements with reference to the Tele-MANAS:

A. It is an initiative of the Ministry of Health and Family Welfare, Government of India.
B. It aims to improve access to maternal and child health services through telemedicine.
Which of the statements given above is/are correct?
a)   A only
b)   B only
c)   A and B
d)   Neither of two

2. Consider the following statements with reference to the PraVaHa Software:

A. It is a Computational Fluid Dynamics (CFD) software developed by the Defence Research and Development Organisation (DRDO).
B. It can simulate external and internal flows on launch vehicles, winged and non-winged re-entry vehicles.
Which of the statements given above is/are correct?
a)   A only
b)   B only
c)   A and B
d)   Neither of two

3. Consider the following statements with reference to the Maharani Temple:

A. It is situated on a small hillock in Gulmarg, Jammu and Kashmir.
B. The temple's intricate carvings and designs reflect a beautiful blend of Indian and Persian styles.
Which of the statements given above is/are correct?
a)   A only
b)   B only
c)   A and B
d)   Neither of two

4. H5N2 virus is sometimes mentioned in the news with reference to which one of the following diseases?

a)   Bird Flu
b)   AIDS
c)   COVID 19
d)   Dengue

5. 'State of Ocean Report, 2024' which provides crucial insights into the current state of global oceans, is initiated by which one of the following?

a)   Intergovernmental Oceanographic Commission
b)   International Maritime Organization
c)   World Meteorological Organization
d)   United Nations Environment Programme

Answers Current Affairs
6th June, 2024

1. a
2. b
3. c
4. a
5. a