NEXT IAS

DAILY NEWS

ANALYSIS

📅 **7th April**

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EXPLAINED

1. CAPTCHA

Relevance: Awareness in the fields of IT (GS 3)

Backdrop: From simple text-based challenges to the advanced reCAPTCHA systems we use today, CAPTCHA has made a big difference in online security.

What is CAPTCHA?

- CAPTCHA stands for **"Completely Automated Public Turing test to tell Computers and Humans Apart."**
- It's a security tool designed to differentiate humans from bots.
- **Functions like a puzzle**: easy for people, difficult for machines to solve.

Why Was CAPTCHA Introduced?

- Emerged in the **early 2000s** to counter rising issues caused by bots:
    - Fake accounts
    - Website spam
    - Data theft
- Developed by **Luis von Ahn**, **Manuel Blum**, **Nicholas J. Hopper**, and **John Langford**.
- The first CAPTCHA **patent was filed in 2003**.

How CAPTCHA Works?

- 'The imitation game' - Alan Turing
- **Early CAPTCHA:** Identifying distorted letters, numbers, or symbols.
- **Modern CAPTCHA:** Involves image recognition (e.g., picking photos of traffic lights or cars).

Evolution of CAPTCHA

- **Initial stage**: distorted text challenges.
- As bots became smarter, CAPTCHA had to adapt.

Key Milestones:

- **2009 – reCAPTCHA**:
    - Used scanned words from books.
    - Helped **digitize books** while securing websites.
- **2014 – Invisible reCAPTCHA by Google**:
    - Detected human behavior via **mouse movements**.
    - Less intrusive, more seamless user experience.

How CAPTCHA Protects the Internet

- Used across many websites for:
    - **Forms, comments, registrations** – to prevent spam.
    - **Online transactions** – protects against automated fraud.
    - **Account recovery** – ensures only real users regain access.
    - **Polls and surveys** – filters out bot responses for accurate results.
- Acts like a **digital gatekeeper** for secure online interactions.

Limitations of CAPTCHA

- **Accessibility issues**:
    - Difficult for people with visual or hearing impairments.
- **User experience concerns**:
    - Adds extra steps, especially frustrating on mobile.
    - Some CAPTCHAs are overly complex or hard to read.
- **Advancements in AI**:
    - Bots using **machine learning** can now solve some CAPTCHA challenges.
    - Requires constant innovation to stay ahead.

2. SOUTH KOREAN PRESIDENT

Relevance : GSII International Relation

Backdrop: South Korea's President Yoon Suk-yeol removed from office over martial law decree

About the News

- **South Korea's Constitutional Court says President Yoon Suk-yeol 'violated' people's basic rights by declaring martial law.**
- **South Korea's National Assembly voted to impeach Yoon on December 14, but they needed the approval of the Constitutional Court to formally expel him.**
- While South Korea is considered one of Asia's most successful – albeit at times tumultuous – democracies, it is relatively new to the club.

• The country was headed by a series of military-backed dictators from 1948 until 1987, when mass protests overturned a 17-year stretch of martial law and set South Korea on the road to democracy.

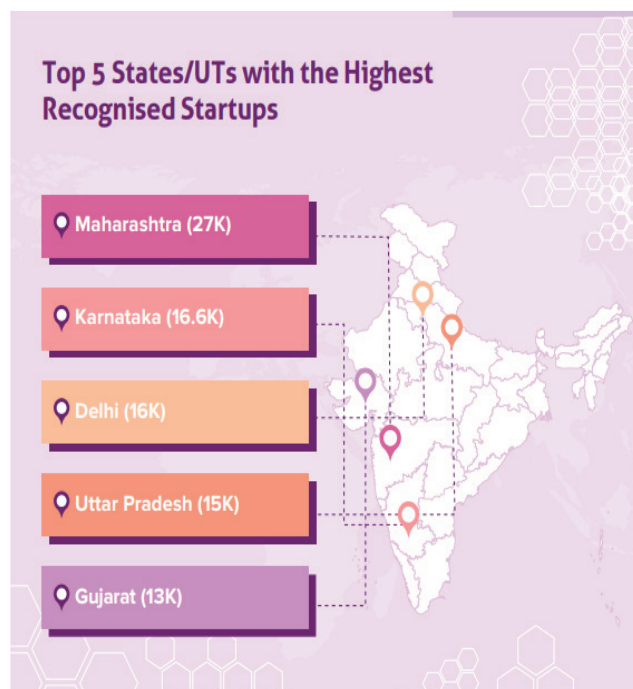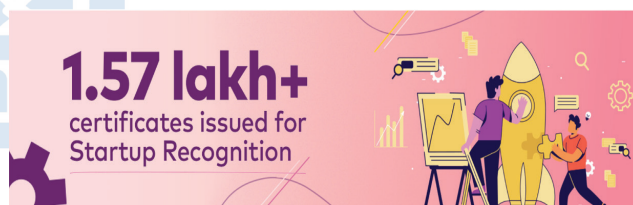| Feature	President of South Korea	President of India
System of Government	Presidential system	Parliamentary system
Relevant Articles	Articles 66 to 85	Articles 52 to 78, 123, and 352–360
Status/Role	Head of State **and** Head of Government	**Ceremonial** Head of State
Election Method	Direct election by the people	Indirect election by an electoral college
Term Length	5 years (no re-election allowed)	5 years (re-election allowed)
Executive Powers	Full executive powers	Executes powers on the advice of Council of Ministers
Legislative Powers	Can veto bills, address National Assembly	Can summon/ dissolve Parliament, ordinances under Art. 123
Emergency Powers	Martial law or state of emergency	Articles 352, 356, 360
Judicial Powers	Appoints judges, can grant pardons	Appoints judges, can grant pardons under Art. 72
Military Role	Commander-in-Chief of the Armed Forces	Supreme Commander of the Armed Forces
Appointment Powers	Appoints PM, ministers, judges, public officials	Appoints PM, Governors, Judges, etc.
Ordinance Power	Can issue presidential decrees (limited)	Can promulgate ordinances under Article 123
Impeachment/ Removal	By National Assembly (2/3 majority)	By Parliament (special procedure under Article 61)

3. STARTUPS IN INDIA

Relevance: GS III Indian Economy, Growth, Development and Employment

Backdrop: Recently India held its S**tartup MahaKumbh between April 3–5, 2025,** at Bharat Mandapam, New Delhi, under the theme, **'Startup India @ 2047: Unfolding the Bharat Story.'**

As per Department for Promotion of Industry and Internal Trade (DPIIT)

Eligibility Criteria for Startup Recognition:

• The Startup should be **incorporated as a private limited company or registered as a partnership firm or a limited liability partnership**

• **Turnover should be less than INR 100 Crores** in any of the previous financial years

• An entity shall be considered as a startup **up to 10 years from the date of its incorporation**

• The Startup **should be working towards innovation/ improvement of existing products, services and processes and should have the potential to generate employment/ create wealth**. An entity formed by splitting up or reconsutrctuon of an existing business shall not be considered a "Startup"
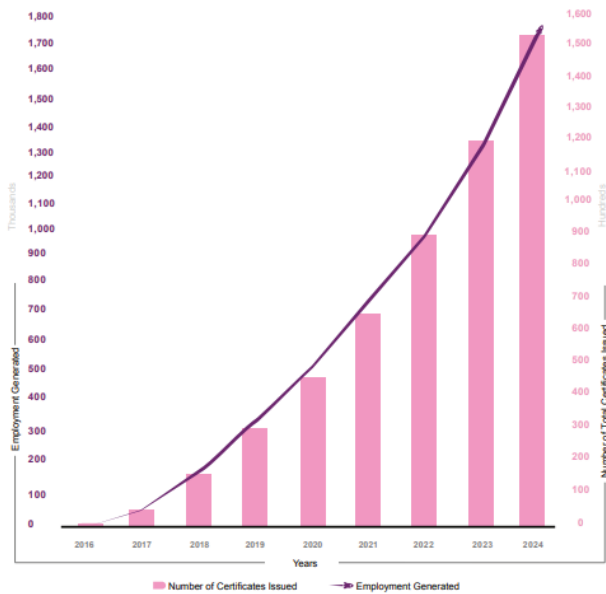

1.57 lakh+ certificates issued for Startup Recognition

Top 5 States/UTs with the Highest Recognised Startups

Maharashtra (27K)
Karnataka (16.6K)
Delhi (16K)
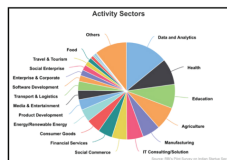Uttar Pradesh (15K)
Gujarat (13K)

Figure 1: Growth of Certificates issued for Startup Recognition by DPIIT and Employment Generation (self-reported by Startups)over the years

Overview: Indian Startup Ecosystem

Category	Description
Global Ranking	3rd largest startup ecosystem in the world (after the U.S. & China)
No. of Startups	Over 110,000+ DPIIT-recognized startups (as of early 2025)
Unicorns	118+ unicorns (startups valued over $1 billion),Ola, Swiggy, Zerodha
Sectors	Fintech, EdTech, HealthTech, SaaS, Agritech, Ecommerce, DeepTech, Web3

Digital Penetration	Over 850M internet users & growing fintech adoption with UPI (Unified Payments Interface)
Innovation	The Economic Survey 2023-24 reports that startups have filed for over 12,000 patents between 2016 and March 2024. It also notes that over 13,000 startups work on the frontiers of technological progress in areas such as AI, robotics, Internet of Things (IoT) and nanotechnology.

Activity Sectors

Challenges

Funding & Finance

- **Decline in Venture Capital (VC) Funding**
    ₹ 35% drop in VC fundraising in 2024 — **lowest level since 2020**
- **Over-reliance on Limited Investors**

Talent & Human Resources

- **High Attrition Rates**
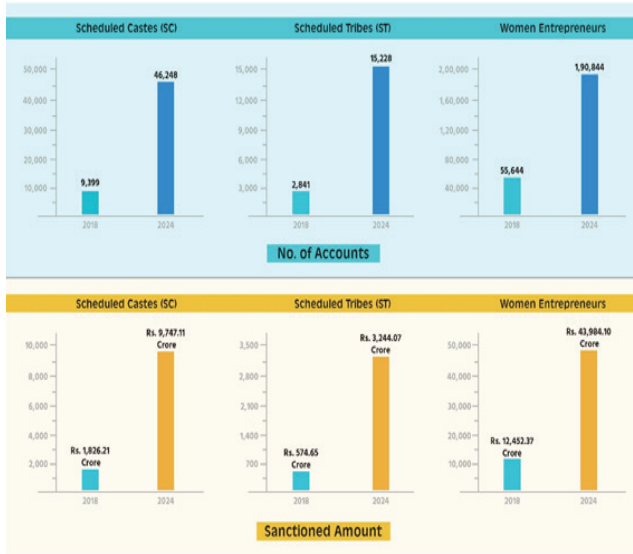- **Challenges in Retaining Skilled Talent**

Regulatory Hurdles

- **Complex Compliance Requirements**
- **Uncertainty in Emerging Sectors**

Sustainability

- **High Failure Rates : 90% of startups fail within 5 years**
- **Focus on Growth Over Profitability**
- **Low Investment in R&D** India spends **0.7% of GDP on R&D**, below global average (1.8%)
- **Dependence on Imitative Business Models**
- **Weak Industry-Academia Collaboration**

Global Risks

- **Exposure to International Market Fluctuations**
- **Geopolitical Tensions**

Government Schemes :

Initiative	Description
Startup India	Launched in 2016 – offers tax exemptions, funding support (SIDBI Fund of Funds), self-certification, IPR fast-tracking
Digital India	Boosted internet infrastructure, e-governance, digital literacy
Atal Innovation Mission (AIM)	Promotes innovation via Atal Tinkering Labs and Incubators
Fund of Funds for Startups (FFS)	₹10,000 crore corpus managed by SIDBI to support VC funds
Startup India Seed Fund Scheme (SISFS)	Provides seed funding up to ₹20 lakh for product development and ₹50 lakh for commercialization
Make in India	Encourages domestic manufacturing startups, especially in hardware and EV sectors

Stand-Up India

Eligibility
- ✓ SC/ST and/or women entrepreneurs above 18 years of age.
- ✓ Borrower should not be a defaulter with any bank/financial institution.

Nature of Loan
- ✓ Composite loan between Rs. 10 lakh and Rs. 1 crore through Scheduled Commercial Banks (SCBs).

Purpose of Loan
- ✓ To set up a new enterprise in manufacturing, services, agri-allied activities, or trading by SC/ST/women entrepreneurs.

Size of Loan
- ✓ Covers 85% of the project cost (term loan + working capital).
- ✓ If borrower's contribution + scheme support › 15% of project cost, this rule doesn't apply.

Interest Rate
- ✓ Lowest applicable bank rate for the category (not exceeding base rate + 3% + tenor premium).

Security
- ✓ Primary security required, plus collateral or Credit Guarantee Fund Scheme for Stand-Up India Loans (CGFSIL) as per bank's decision.

Repayment
- ✓ Loan repayable within 7 years with up to 18 months moratorium period.

Working Capital
- ✓ Up to Rs. 10 lakh: Overdraft with a Rupay debit card.
- ✓ Above Rs. 10 lakh: Cash Credit limit.

Margin Money
- ✓ Up to 15% margin money, with support from central/state schemes.
- ✓ Minimum 10% of project cost must be the borrower's own contribution.

Stand-Up India Scheme
(2018 v/s 2024)

Data As on 30.11.2018 and 30.11.2024

4. HEATWAVE

Relevance: Disaster Management (GS 3)

Backdrop: IMD's yellow alert in Delhi, warns of heatwave.

Heat Wave: A heat wave is a period of **unusually high temperatures** that exceed the normal expected range for a specific region.

Climatological Factors Behind Heatwaves

- **High Insolation**: The **sun's angle** is nearly vertical → more energy absorbed → higher temperatures.
- **Persistent High-Pressure Systems:** These are **stable air masses** that trap heat and suppress cloud formation.
- **Dry Soil Conditions:** After winter and before the monsoon, **soil is dry**, which increases sensible heat (i.e., temperature) instead of evaporating water.
- **Delayed or Weak Monsoon Onset:** When the southwest monsoon is delayed, **extreme heat lingers longer** than normal.
- **Anthropogenic Climate Change:** Rising global average temperatures shift climate norms.

Criteria for Declaring a Heat Wave in India:

A. Based on Geographical Location:
- **Plains:** Maximum temperature reaches ≥ **40°C**
- **Hilly regions:** Maximum temperature reaches ≥ **30°C**

B. Based on Departure from Normal Temperature:
- **Heat Wave:** Departure from normal is between **4.5°C to 6.4°C**
- **Severe Heat Wave:** Departure from normal is **> 6.4°C**

C. Based on Actual Maximum Temperature:
- **Heat Wave:** Actual temperature is ≥ **45°C**
- **Severe Heat Wave:** Actual temperature is ≥ **47°C**

Note: If the above conditions are met in **at least 2 stations** within a **Meteorological sub-division** for **2 consecutive days**, it is officially declared a heat wave on the **second day**.

D. Criteria for Coastal Stations:
- Heat wave is considered when:
  - **Actual temperature is ≥ 37°C**
  - **Departure from normal is ≥ 4.5°C**

Colour codes of heat waves issued by IMD

Colour Code	Alert	Warning	Impact	Suggested Actions
Green (No action)	Normal Day	Maximum temperatures are near normal	Comfortable temperature. No cautionary action required.	Nil
Yellow Alert (Be updated)	Heat Alert	Heat wave conditions at isolated pockets persists on 2 days	Moderate temperature. Heat is tolerable for general public but moderate health concern for vulnerable people e.g. infants, elderly, people with chronic diseases	(a) Avoid heat exposure. (b) Wear lightweight, light-coloured, loose, cotton clothes. (c) Cover your head: Use a cloth, hat or umbrella
Orange Alert (Be prepared)	Severe Heat Alert for the day	(i) Severe heat wave conditions persists for 2 days (ii) Through not severe, but heat wave persists for 4 days or more	High temperature. Increased likelihood of heat illness symptoms in people who are either exposed to sun for a prolonged period or doing heavy work. High health concern for vulnerable people e.g. infants, elderly, people with chronic diseases.	(b) Avoid heat exposure– keep cool. Avoid dehydration. (b) Drink sufficient water- even if not thirsty. (c) Use ORS, homemade drinks like lassi, torani (rice water), lemon water, buttermilk, etc. to keep yourself hydrated
Red Alert (Take Action)	Extreme Heat Alert for the day	(i) Severe heat wave persists for more than 2 days. (ii) Total number of heat/severe heat wave days exceeding 6 days.	Very high likelihood of developing heat illness and heat stroke in all ages.	Extreme care needed for vulnerable people.

DECODED

5.WORLD HEALTH DAY

Relevance: Issues Relating to Development and Management of Social Sector/Services relating to Health (GS 2)

Backdrop: World Health Day

World Health Day

- **Observed on:** 7th April every year.
- **Initiated by:** World Health Organization (WHO) in 1950.
- **Purpose:** Raise awareness on critical global health issues and mobilize action to improve health outcomes.
- **Theme for 2025:** "Healthy Beginnings, Hopeful Futures" – focused on maternal and newborn health.

Preventive healthcare and NCDs

- **Status:** NCDs > CDs
- **Level:**
  - 5-6 Million Young Indians are dying per year due to NCDs
  - 22% of Indians over 30 are at risk of dying of NCD before 70
- **Economic cost:** 5-10% of GDP (loss of productivity and reduced workforce participation), 2012 to 2030 Harvard with WEF study says India stand to lose 3.5-4 tn $.

PREVENTION as solution

- as most NCDs are preventable - 80% of premature heart, diabetes, stroke ailments can be prevented by changing lifestyle.
- Exercise, diet, pollution control, and regular health screenings are suggested measures.
- Technology: With 750 million smartphone users we can use technology. Predictive health modeling using AI is another potential step that can be taken. AI can also help us in - generating "health risk score", diagnosis (X-ray reading).
- Preventive health care with tech should remain Humane while being proactive, precise, and accessible.
- Preventive Mindset: at all levels - individual, community, corporate and government we should adopt a preventive healthcare mindset.

Health and Sanitation:

- **Two sides of the same coin** - SBM - G and JJM
- **Ensured** dignity, equity and health
- **SDG 6.2** - adequate and equitable hygiene for all by 2030 while india is already **ODF 2019**

- **Other Benefits:**
  - Prevention of CD Deaths - WHO Rport 3 lakh diarrhoeal deaths averted(2014-2019), 58% less wasting (The gates foundation)
  - Women safety and dignity - 93% felt safer
  - Less OOPE: 50K saved by ODF families
  - Control of spread of diseases - ODF villages 12 times less likely to have contaminated water
  - JJM can prevent child deaths and save time for women while increasing their chance to participate in the workforce.
- DATA: tap water: 80% villages , ODF+ : 96% villages, Solid/liquid waste management : 5 lakh+ villages.
- These are women led and executed missions while they are significant beneficiaries. Also interministerial convergence has been the hallmark of these missions.

A paradigm shift in mental health policy

- The **socio-structural determinants of mental health,** such as discrimination and biased institutional policies, are almost **always left unattended.**
- **To cultivate cultural safety and empathy in the classroom,** it is important that **teachers and students interact regularly. Classrooms** are to be nurtured as safe, kind, and democratic spaces.
- The **current policies on mental health, limited to increasing mental health services**, need a paradigm shift to a bottom-up approach focused on the classroom that maps various experiences and nurtures sensitivity to contexts and diversities
- Counselling centres have to mobilise all possible resources at multiple levels so that care becomes the central value.
- Embedding **ethics of care into institutional policies** to respond to avoidable mental distress to make every human life meaningful is more important than landing a human on the moon.
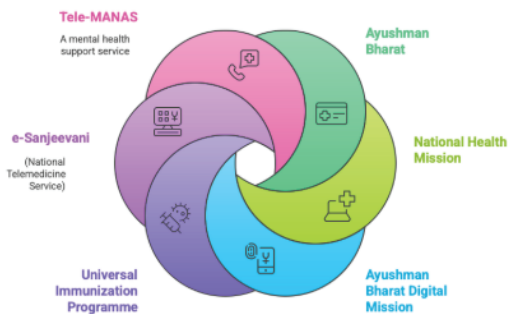
Bridging gaps, building resilience

- Infrastructure gaps in rural areas: 70% of population lives in rural India.
  - Only 35–40% of healthcare infrastructure is located there.
- 101 million Indians have diabetes (IDF 2024).
- **Air pollution**: Responsible for **1.6 million deaths** (The Lancet, 2019).

- **Malnutrition**:
  - 35% of children under 5 are **stunted**.
  - 57% of women (15–49 years) are **anemic** (NFHS-5).
- Only **37% of rural households** have internet access.**Budget 2025–26**: ₹99,858.56 crore allocated to the Health Ministry (1.97% of total).
- **High out-of-pocket expenses** push **55 million people into poverty** yearly.
- Emphasis needed on **preventive healthcare** through:
  - Routine screenings
  - School health programmes
  - Public awareness campaigns
- **Ayushman Bharat Digital Mission** and **eSanjeevani** enabled over **10 crore teleconsultations**.

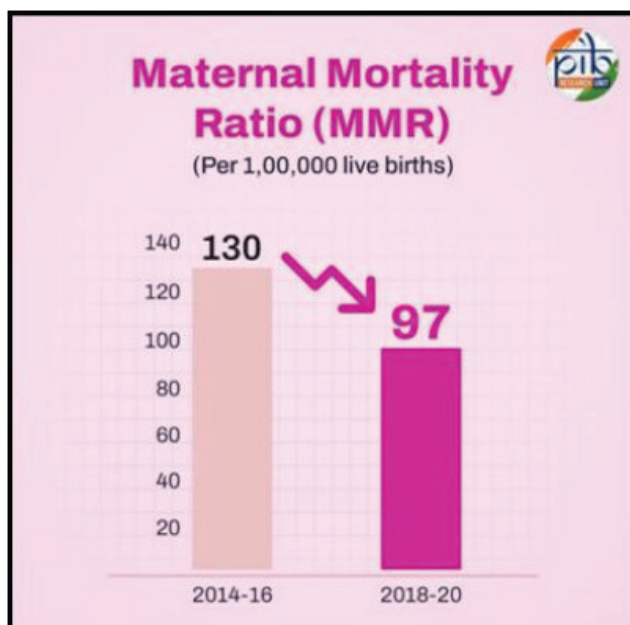### India's Commitment to Public Health (PIB)

Government Initiatives

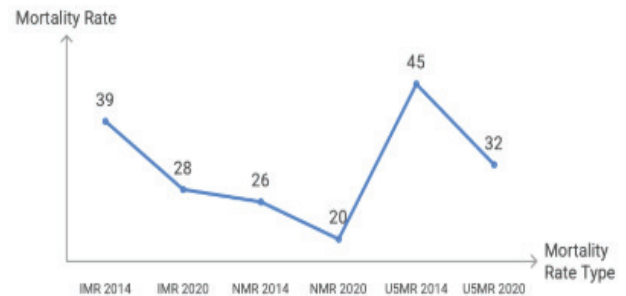Spearheaded by the **Ministry of Health and Family Welfare.**

India's Progress in Maternal and Child Health

Maternal Mortality

Child Health Indicators

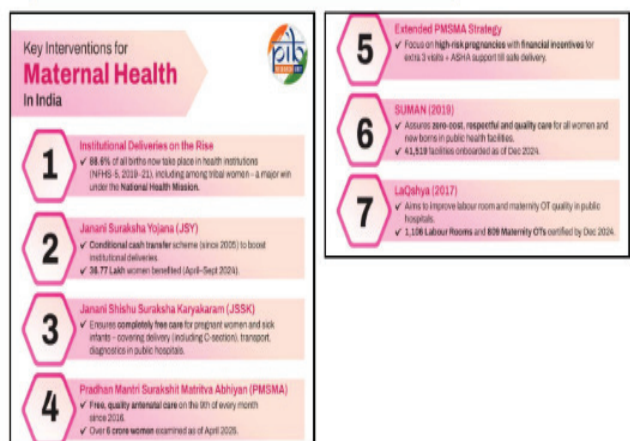
Mortality Rate Improvements in India (2014-2020)

India vs Global (1990–2020)

Indicator	India's Reduction (%)	Global Reduction (%)
MMR (Maternal Mortality Ratio)	83%	42%
NMR (Neonatal Mortality Rate)	65%	51%
IMR (Infant Mortality Rate)	69%	55%
U5MR (Under-5 Mortality Rate)	75%	58%

Targeted Interventions for Maternal Health

Targeted Interventions for Maternal Health

Wider Access to Quality Health Services

Ayushman Arogya Mandirs & Quality Healthcare: Key Highlights

Disease Elimination & Control

- **Malaria:** 69% drop in cases (2017–2023); exited WHO's HBHI group (2024).

- **Trachoma:** Eliminated as a public health problem (2024).

- **Measles & Rubella:** 50 districts measles-free; 226 rubella-free (as of March 2024).

- **Tuberculosis:**
  - Incidence fell from **237 to 195** per lakh (2015–2023).
  - Deaths reduced from **28 to 22** per lakh.
  - **83% drop** in missing cases (15 lakh → 2.5 lakh).
  - **2.5 lakh+** Ni-kshay Mitra volunteers supporting TB patients.

- **Kala-azar:** Eliminated in 2024; all endemic blocks below target level.

Conclusion: A Vision for Universal Health Coverage

India's healthcare reforms are a testament to its commitment to inclusive, equitable, and technology-driven health systems. From declining maternal and child mortality to disease elimination, from digital health transformation to mental wellness support—India is steadily moving toward the goal of **Universal Health Coverage** and a **healthier future for all**.

MAINS PYQ

Q. In a crucial domain like the public healthcare system the Indian State should play a vital role to contain the adverse impact of marketisation of the system. Suggest some measures through which the State can enhance the reach of public healthcare at the grassroots level. (250W 15M) 2024

PRACTICE QUESTION

Q World Health Day 2025, themed "Healthy Beginnings, Hopeful Futures," highlights the importance of maternal and newborn health. In this context, discuss how India's preventive healthcare strategy, sanitation initiatives, and technological integration can collectively shape better public health outcomes. (10 marks, 150 words)

DNA QUIZ

Q.1 With reference to CAPTCHA (Completely Automated Public Turing test to tell Computers and Humans Apart), consider the following statements:

1. CAPTCHA was developed to distinguish between human users and automated bots on the internet.
2. The reCAPTCHA system introduced in 2009 contributed to the digitisation of printed books.
3. CAPTCHA is based on the principle of the Turing Test proposed by Alan Turing.
4. Invisible reCAPTCHA uses retina scanning to verify if a user is human.

Which of the statements given above is/are correct?

(a) 1, 2 and 3 only
(b) 1 and 4 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

Q.2 Consider the following statements:

1. If the election of the President of India is declared void by the Supreme Court of India, all acts done by him/her in the performance of duties of his/her office of President before the date of decision become invalid.

2. Elections for the post of the President of India can be postponed on the ground that

some Legislative Assemblies have been dissolved and elections are yet to take place.

3. When a Bill is presented to the President of India, the Constitution prescribes time limits within which he/she has to declare his/her assent.

How many of the above statements are correct? [2023]

(a) only one

(b) only two

(c) All three

(d) None

Q.3 With reference to 'Stand Up India Scheme', which of the following statements is/are correct?

1. Its purpose is to promote entrepreneurship among SC/ST and women entrepreneurs.

2. It provides for refinancing through SIDBI.

Select the correct answer using the code given below.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Q.4 Consider the following statements regarding the declaration of a Heat Wave in India:

1. In the plains, a heat wave is declared when the maximum temperature reaches 40°C or more, with a departure from normal between 4.5°C to 6.4°C.

2. In coastal regions, a heat wave is declared only if the actual maximum temperature reaches 45°C.

3. A severe heat wave can be declared if the departure from normal temperature exceeds 6.4°C.

4. A heat wave is officially declared when the criteria are met in at least two stations of a Meteorological sub-division for two consecutive days.

Which of the statements given above are correct?

(a) 1 and 3 only

(b) 1, 3 and 4 only

(c) 2 and 4 only

(d) 1, 2, 3 and 4

Q.5 Consider the following statements: (2023)

Statement-I: India's public sector health care system largely focuses on curative care with limited preventive, promotive and rehabilitative care.

Statement-II: Under India's decentralized approach to health care delivery, the States are primarily responsible for organizing health services.

Which one of the following is correct in respect of the above statements?

(a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I

(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I

(c) Statement-I is correct but Statement-II is incorrect

(d) Statement-I is incorrect but Statement-II is correct

Answers				
Q.1 (a)	Q.2 (d)	Q.3 (c)	Q.4 (b)	Q.5 (b)