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DAILY CURRENT AFFAIRS

15th May 2024

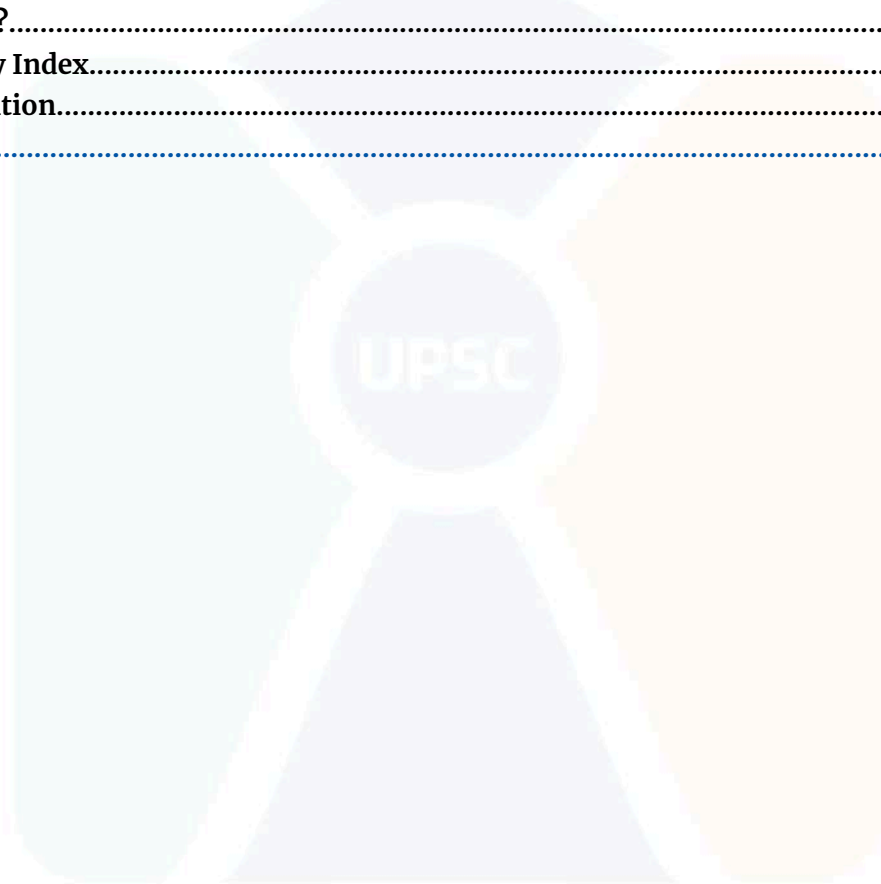


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GS II

1. Rise in public health spending due to States, not Centre

Source: The Hindu, Page 9

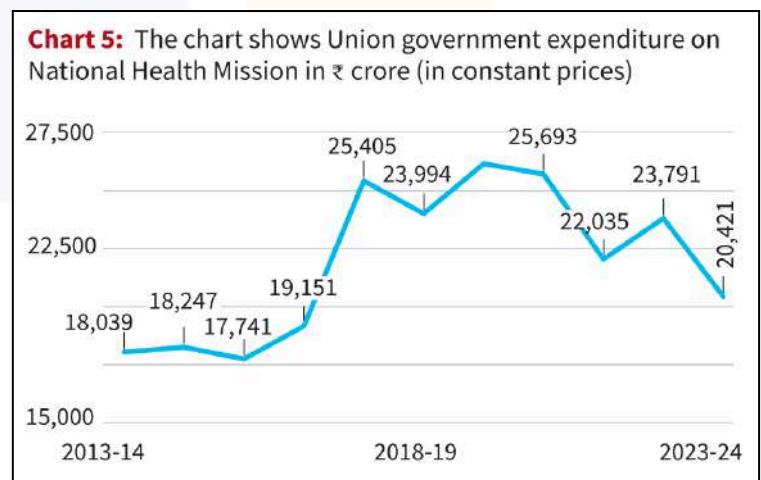
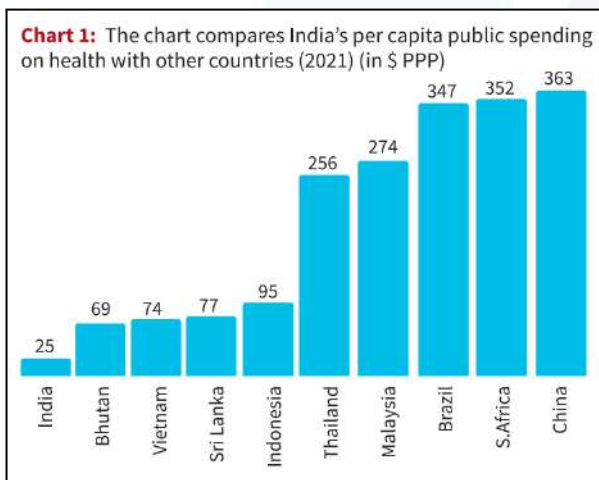
Prelims: Data and related Facts

Mains: Issues Relating to Development and Management of Social Sector/Services relating to Health, Education, Human Resources.

News: Recently, many think tanks claimed that India, which has always spent a little more than 1% of its GDP on healthcare, is inching close to 2% in recent years.

Details about Health Spendings

- Public spending on health in India continues to be abysmal compared to many countries. Bhutan's spending on health was 2.5 times more than India's while Sri Lanka's was three times more.
- The increase in public spending on health in recent years, particularly during the COVID-19 pandemic, can be attributed to the States and Union Territories. In contrast, the Union government's spending on health as a percentage of GDP, which increased moderately during the pandemic, has decreased post-pandemic.
- Expenditure on the National Health Scheme (NHM) has mostly remained stagnant or has come down in the last seven years.
- The Central Government's emphasis on Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PMJAY) is visible in its spending patterns. PMJAY shows a steady increase in expenditure. Even though the Centre draws a lot of mileage from these schemes, a bigger share of the spending is incurred by the States.



GS III

2. On the importance of regulatory sandboxes in artificial intelligence

Source: The Hindu, Page 11

Prelims: About Regulatory Sandboxes

Mains: Indigenization of Technology and Developing New Technology.

News: Many governments and regulatory bodies have turned to innovative approaches such as “AI regulatory sandboxes” to strike a balance between fostering AI innovation and ensuring responsible development.

About Regulatory Sandboxes

- Regulatory sandbox refers to live testing of new products or services in a controlled regulatory environment.
- This approach serves as a valuable tool for policymakers, furnishing them with empirical evidence regarding the advantages and potential risks associated with emerging technologies.

MAIN AI REGULATORY SANDBOXES CHALLENGES THAT REQUIRE STRONGER POLICIES

- Multi-disciplinary and multi-stakeholder co-operation.
- AI expertise within regulatory bodies.
- International regulatory interoperability and a possible role for trade policy.
- Comprehensive sandbox eligibility and testing criteria.
- Impact on innovation and competition.
- Interactions with other pro-innovation mechanisms.



Indian Story

- In India, all financial sector regulators, including the Reserve Bank of India, Securities and Exchange Board of India, Insurance Regulatory and Development Authority of India, Pension Fund Regulatory and Development Authority, and International Financial Services Centre Authority, have launched their respective regulatory sandboxes.
- Karnataka has enacted the Karnataka Innovation Authority Act, 2020, establishing an Innovation Authority dedicated to promoting and regulating innovative technologies through a regulatory sandbox model.
- Recently passed Telecommunications Act 2023 proposed a regulatory sandbox where the central Government has the authority to establish one or more regulatory sandboxes, as prescribed, to promote and facilitate innovation and technological development in the field of telecommunications, specifying the manner and duration for their implementation.
- India’s interest in regulating AI is grounded in a multifaceted approach encompassing economic ambitions, ethical considerations, job creation, industrial transformation, and overall societal welfare.



3. Heatwaves & climate change

Source: IE, Page 12

Prelims: Heatwaves

Mains: Disaster and Disaster Management

News: A new study has attributed heatwaves witnessed in India in April to climate change.

Heatwaves in India

- Heatwaves are becoming more frequent, intense, and prolonged because of climate change.
- Heatwaves at the beginning of this year's summer were likely to be more prolonged, lasting for as long as 10 to 20 days at a stretch in some places, instead of the usual 4 to 8 days.
- An 18-day heatwave was recorded in Odisha in April, the second longest spell for the state ever, according to an analysis by Climate Central. Gangetic West Bengal recorded the highest number of heatwave days for any month in the last 15 years, the analysis said.
- Eastern India recorded its warmest April ever. This week, the IMD said a fresh spell of heatwaves was likely to start over northwest India.

WHAT MAKES FOR A HEATWAVE?		
Places with normal maximum temperature	Heatwave if temperature higher by	Severe heatwave if temperature higher by
40 degree Celsius or less	5-6 degree Celsius	7 degree Celsius
More than 40 degree Celsius	3-4 degree Celsius	More than 5 degree Celsius
For any place	Maximum temperature remains above 45 degree Celsius for two consecutive days	

These criteria have to be met in at least two stations of a meteorological sub-division for at least two consecutive days. Source: Parliament question and IMD

Impact of Heatwaves

- Prolonged exposure to heat can result in dehydration and cardiovascular and respiratory diseases, and exacerbate existing weaknesses, even leading to sudden deaths.
- Data on illnesses and deaths caused by excessive heat is not maintained well in India. Efforts to collect and collate these data began only about a decade ago.
- NCRB counts heat-related mortality among accidental deaths caused by forces of nature, reporting 730 deaths for 2022. The Health Ministry reported 264 heat-related deaths in the first six months of 2023.

Mitigation of Heatwaves

- All the 23 states known to be vulnerable to heatwaves now have heat action plans to manage the adverse impacts. Simple measures like the provision of cool drinking water at public places, free distribution of oral rehydration solutions and providing access to parks and other shaded places have brought relief to large numbers of people and prevented illnesses and deaths in several cities.
- Local administrations must mandatorily regulate activities even in unorganised sectors like construction.
- Like schools and colleges, office timings can also be tweaked. All organised outdoor activities, including sports, would need to be strictly regulated. Adequate Funding is needed too.



Editorials, Opinions and Ideas

4. The challenge of extra-pulmonary TB

Source: The Hindu, Page 9

The article tries to bring out the issue of Extra-Pulmonary Tuberculosis (EPTB) in limelight and suggests direct interventions from concerned stakeholders. This article forms an important part of your General Studies Paper II and III under the topics 'Health Issue' and 'Science and Technology'.

Extra-Pulmonary Tuberculosis (EPTB) in India

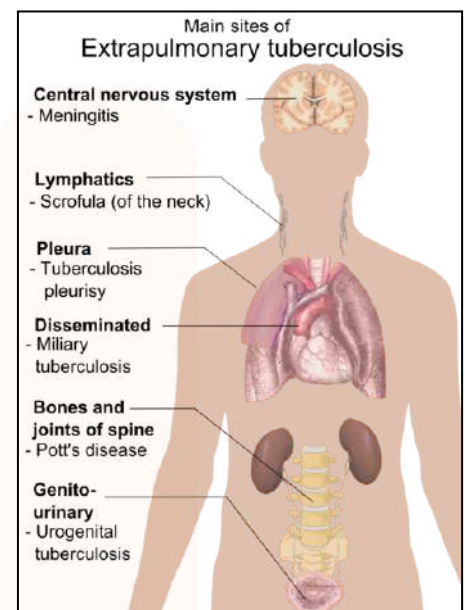
- The World Health Organization (WHO) reports over 10 million new cases of TB every year and India alone accounts for 27% of the global TB burden. Nearly one in five TB patients have EPTB.
- EPTB's under diagnosis results in irreparable damage to the infected organs, leading to vision loss or even blindness, for example.

Steps Taken and Challenges

- The twin challenges in tackling EPTB are lack of awareness, even among physicians, and lack of accurate diagnostic and treatment criteria.
- As TB can be present in multiple organs, the lack of formal and functioning protocols to exchange information between doctors in multiple specialities leads to silos of knowledge.
- In 2014, a group of experts from different health institutions across the country came together to formulate INDEX-TB, a set of guidelines for EPTB management in India. The group also released a set of clinical practice points for 10 organs, but good quality evidence was available only for five of them. This work has remained dormant.

Suggestions

- Hospital systems need to generate better data on EPTB, with specialist departments for each organ for EPTB management. These departments must capture patient data and be ready to share it with the National TB Control Programme.
- Their action may help reinvigorate Nikshay, the national patient management portal for TB control, which has incomplete and missing data.
- A concerted effort by different EPTB specialities, and advanced immunological tools such as single-cell RNA sequencing, might be able to uncover the immune mechanisms for the disease.
- Policy makers need high-quality data through clinical trials to formulate them. Similarly, INDEX-TB guidelines need to be updated with the latest data and experience.



InBrief

5. Wholesale price inflation hits 13-month high

Source: The Hindu, Page 12

News: India's wholesale price inflation quickened to a 13-month high of 1.26% in April, from 0.53% in March.

About Wholesale Price Index

- Measurement of Inflation: The Wholesale Price Index (WPI) measures the average change in the prices of goods sold in bulk at the wholesale level.
- Base Year: The WPI in India is calculated with 2011-12 as the base year.
- Commodities Covered: It covers a wide range of commodities grouped into three major groups: Primary Articles, Fuel and Power, and Manufactured Products.
- Published by: The WPI is published by the Office of Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India.

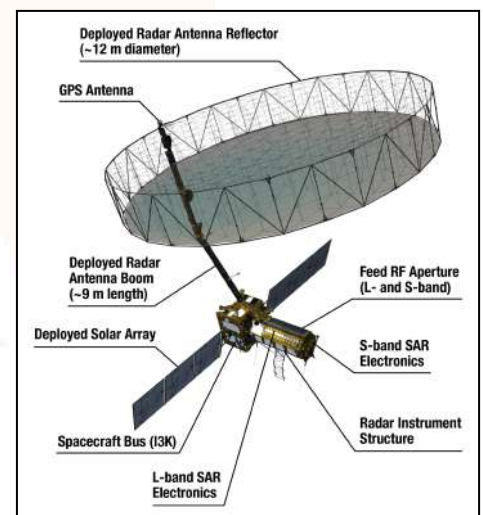
6. NISAR satellite will monitor tectonic movements to centimetre accuracy

Source: The Hindu, Page 3

News: Nisar Satellite is likely to be launched later this year, confirmed ISRO Chief.

About NISAR

- Collaborative Mission: NISAR (NASA-ISRO Synthetic Aperture Radar) is a collaborative mission between NASA and ISRO.
- Radar Imaging: It will carry dual-frequency synthetic aperture radar to provide detailed observations of Earth's surface, allowing monitoring of changes over time.
- Scientific Goals: NISAR aims to study natural hazards, ecosystem disturbances, and dynamic processes such as earthquakes, volcanoes, and ice sheet collapses.
- Frequency Bands: NISAR will operate at L-band (wavelength of about 24 centimeters) and S-band (wavelength of about 4 centimeters), offering complementary information about Earth's surface.
- Climate Change: The mission will also track changes in glaciers and ice sheets, contributing to climate change research.



7. IndiaSkills 2024: India's Biggest Skill Competition to Commence in New Delhi

Source: PIB

News: The IndiaSkills Competition 2024 – the country's biggest skill competition designed to demonstrate the highest standards of skilling commenced recently.

In Detail

- The four-day-long IndiaSkills will allow participants to showcase their diverse skills and talent on a national platform across 61 skills – from traditional crafts to cutting-edge technologies.
- The students participating in the national-level competition have been trained in ITIs, NSTIs, Polytechnics, institutes of engineering, institutes of nursing, and institutes of biotechnology.
- Winners of IndiaSkills, with the help of the best industry trainers, will get prepared for the WorldSkills Competition scheduled to take place in Lyon, France in September 2024.
- It is also the first time that IndiaSkills has incorporated a competition information system called Qrencia.

8. What is GPT-4o?

Source: IE. page 12

News: OpenAI introduced its latest large language model (LLM) called GPT- 4o, billed as its fastest and most powerful AI model so far.

About GPT 4o

- GPT-4o ('o' stands for 'Omni') has been developed to enhance human-computer interactions.
- It lets users input any combination of text, audio, and image, and receive responses in the same formats.
- This makes GPT-4o a multimodal AI model -a significant leap from previous models. It could assist users with a variety of tasks, from real- time translations to having realtime spoken conversations.
- Unlike its predecessors that required multiple models to handle different tasks, GPT-4o uses a single model trained end- to-end across various modalities - text, vision, and audio.

9. India's Volatility Index

Source: IE, Page 13

News: INDIA VIX, which is an indicator of the market's expectation of volatility over the near term, has surged past the 21 mark.

About Volatility Index (VIX)

- The Volatility Index, VIX or the Fear Index, is a measure of the market's expectation of volatility over the near term. Volatility is often described as the 'rate and magnitude of changes in prices' and in finance often referred to as risk.



- As volatility subsides, the Volatility Index declines.
- The Volatility Index is a measure of the amount by which an underlying index is expected to fluctuate, in the near term, based on the order book of the underlying index options.
- India VIX is a volatility index computed by the NSE based on the order book of NIFTY Options. For this, the best bid-ask quotes of near and next-month NIFTY options contracts which are traded on the F&O segment of NSE are used.

10. Nairobi Declaration

Source: DownToEarth

News: Recently, African presidents have endorsed the Nairobi Declaration on fertiliser and soil health.

Nairobi Declaration

- The Nairobi Declaration was adopted to be the basis for Africa's common position in the global climate change process to COP 28 and beyond.
- The "Nairobi Declaration" was the result of the first Africa Climate Summit (ACS23) in Nairobi, which gave the continent a unified voice ahead of impending significant international engagements.
- The Nairobi summit largely focused on calls to unlock investment in clean energy. The summit had attracted grants and investment pledges worth \$23 billion.



Daily Quiz

1. Consider the following statements regarding Health Expenditure in India:

1. The expenditure on Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PMJAY) has constantly increased in the last few years.
2. The expenditure on the National Health Mission (NHM) has constantly increased in the last few years.

Which of the above given statements is/are correct?

- A. Only 1
- B. Only 2
- C. Both 1 and 2
- D. Neither 1 nor 2

2. Which of the following statements correctly define the term Regulatory Sandboxes, sometimes seen in the news?

- A. Designated areas where Aeroplanes are checked for safety standards under the supervision of regulatory authorities.
- B. Virtual environments where financial institutions can test innovative products, services, or business models in a controlled environment.
- C. WTO based International agreements that standardise regulations for trade.
- D. Experimental spaces where departments test new schemes before implementing them nationwide.

3. Which of the following statements accurately describes the impact of heatwaves on India?

- A. Heatwaves primarily affect coastal regions due to the proximity to the sea, resulting in cooler temperatures compared to inland areas.
- B. Heatwaves pose a greater risk to vulnerable populations such as the elderly, children, and outdoor workers, increasing the incidence of heat-related illnesses and fatalities.
- C. Heatwaves have minimal impact on agricultural productivity as crops are resilient to high temperatures and can adapt quickly to changing climate conditions.
- D. Heatwaves are seasonal occurrences limited to the summer months, with negligible effects on overall climate patterns and long-term environmental sustainability.



4. Extra-pulmonary tuberculosis (EPTB) poses a significant challenge in diagnosing and controlling tuberculosis in India. In the context of the above statement, consider the following statements:

1. EPTB refers to tuberculosis infection affecting organs other than the lungs, such as lymph nodes, bones, and the meninges.
2. EPTB accounts for a smaller proportion of TB cases compared to pulmonary TB.
3. Diagnosis of EPTB is usually easier and quicker than pulmonary TB due to its distinct symptoms.

How many of the above statements are correct?

- A. Only 1
- B. Only 2
- C. All are correct
- D. All are incorrect

5. India's wholesale price inflation quickened to a 13-month high of 1.26% in April. In the context of the above statement, consider the following statements:

1. WPI measures the average change in prices of goods traded in wholesale markets across India.
2. The weightage of food articles in the WPI basket is higher compared to the Consumer Price Index (CPI).
3. WPI data is released by the Reserve Bank of India (RBI) on a monthly basis.

Which of the above given statements is/are correct?

- A. 1 only
- B. 2 only
- C. 3 only
- D. 1 and 3 only

6. Recently, ISRO chief confirmed that the Nisar Satellite is likely to be launched later this year. In the context of the above statement, consider the following statements:

1. NISAR's primary function is to capture high-resolution optical images of the Earth's surface.
2. The mission will contribute to studying land subsidence, landslides, and volcanic activity.
3. NISAR will provide crucial data for monitoring changes in global sea ice cover.
4. The satellite is designed for a short operational life of less than two years.

Which of the statements given above are correct?

- A. 1 and 3 only
- B. 1 and 4 only
- C. 2 and 3 only
- D. 2 and 4 only

7. IndiaSkills 2024 is a recently launched initiative aimed at promoting skill development amongst the Indian workforce. In the context of the above statement, consider the following statements:

- A. IndiaSkills is a national competition where Indian competitors showcase their skills against international participants.
- B. It is a joint initiative by the Ministry of Skill Development and Entrepreneurship (MSDE) and National Skill Development Corporation (NSDC).
- C. IndiaSkills winners receive cash prizes and recognition, but do not progress to any international skill competitions.
- D. The competition focuses on traditional skills relevant to the Indian craft sector.



8. Large language models (LLMs) are revolutionising various fields, but concerns exist regarding their potential biases. In the context of the above statement, consider the following statements:

1. LLMs are trained on massive amounts of text data, allowing them to generate human-quality text, translate languages, and write different kinds of creative content.
2. LLMs are a type of artificial intelligence that can learn and adapt without explicit programming.
3. Biases in LLMs can arise from the data they are trained on, potentially reflecting societal prejudices in their outputs.
4. LLMs are currently not powerful enough to be used for complex tasks requiring reasoning and critical thinking.

Which of the statements given above are correct?

- A. 1 and 3 only
- B. 1 and 4 only
- C. 2, 3 and 4 only
- D. 1, 2 and 3 only

9. Recently, India's Volatility Index has surged past the 21 mark. Which of the following institutions compose this index?

- A. Reserve Bank of India
- B. Securities and Exchange Board of India
- C. National Stock Exchange
- D. State Bank of India

10. Recently in the news, "Nairobi Declaration" is related to which of the following fields?

- A. Climate Change
- B. International Trade
- C. Public Health Initiatives
- D. Cybersecurity Regulations



Solutions

Answer 1: A

Solution 1:

- Statement 1 is correct: The expenditure on Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PMJAY) has constantly increased in the last few years.
- Statement 2 is incorrect: The expenditure on the National Health Mission (NHM) has constantly decreased in the last few years.

Hence, option A is correct.

Answer 2: B

Solution 2:

- Regulatory sandbox refers to live testing of new products or services in a controlled regulatory environment.
- This approach serves as a valuable tool for policymakers, furnishing them with empirical evidence regarding the advantages and potential risks associated with emerging technologies.

Hence, option B is correct.

Answer 3: B

Solution 3:

- Heatwaves in India have severe consequences, especially for vulnerable populations. High temperatures can lead to heat exhaustion, heatstroke, dehydration, and other heat-related illnesses, particularly among individuals who are unable to access adequate shelter or hydration. This increased risk underscores the importance of heatwave preparedness, public health interventions, and climate adaptation strategies.

Hence, Option B is correct.

Answer 4: B

Solution 4:

- Statement 1 is correct: EPTB refers to tuberculosis affecting organs outside the lungs.
- Statement 2 is correct: EPTB accounts for about 15% of all TB cases in India.
- Statement 3 is incorrect: EPTB symptoms can be vague and non-specific, making diagnosis more challenging than pulmonary TB.

Hence, option B is correct.

Answer 5: A

Solution 5:

- Statement 1 is correct: WPI tracks the average price changes of goods traded in wholesale markets, reflecting inflation at the wholesale level.
- Statement 2 is incorrect: The weightage of food articles in the WPI basket is actually lower compared to CPI, which focuses on retail prices paid by consumers.
- Statement 3 is incorrect: WPI data is released by the Office of the Economic Advisor (OEA) in the Ministry of Commerce and Industry, typically on a monthly basis.

Hence, option A is correct.

Answer 6: C

Solution 6:

- Statement 1 is incorrect: NISAR uses Synthetic Aperture Radar (SAR) technology, not optical imaging. SAR creates high-resolution images using reflected radar waves.
- Statement 2 is correct: NISAR's radar data is well-suited for monitoring ground



movements associated with land subsidence, landslides, and volcanic activity.

- Statement 3 is correct: NISAR will also help in monitoring sea ice cover.
- Statement 4 is incorrect: NISAR is designed for a minimum operational life of three years, with the potential for extension.

Hence, Option C is correct.

Answer 7: B

Solution 7:

- The IndiaSkills Competition 2024 – the country's biggest skill competition designed to demonstrate the highest standards of skilling commenced recently.
- It is a joint initiative by the Ministry of Skill Development and Entrepreneurship (MSDE) and National Skill Development Corporation (NSDC).

Hence, Option B is correct.

Answer 8: D

Solution 8:

- LLMs are being explored for tasks requiring some reasoning abilities, though their performance may not yet match human-level critical thinking.
- Biases inherent in the training data can be reflected in LLM outputs, highlighting the need for diverse and unbiased datasets.

Hence, Option D is correct.

Answer 9: C

Solution 9:

- India VIX is a volatility index computed by the NSE based on the order book of NIFTY Options. For this, the best bid-ask quotes of near and next-month NIFTY options contracts which are traded on the F&O segment of NSE are used.

Hence, Option C is correct.

Answer 10: A

Solution 10:

- The Nairobi Declaration was adopted to be the basis for Africa's common position in the global climate change process to COP 28 and beyond.

Hence, option A is correct.





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