UPSC Mentorship
A Unit of Mentorship India

DAILY CURRENT AFFAIRS

13 August 2024

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GS I

1. Neelakurinji Declared as a Threatened Species

Source: The Hindu

Context: Neelakurinji (Strobilanthes kunthiana), a flowering shrub that blooms once every 12 years, is now classified as Vulnerable (Criteria A2c) on the IUCN Red List.

Neelakurinji (Strobilanthes kunthiana):
- **Scientific Name:** Strobilanthes kunthiana
- **Common Name:** Neelakurinji (Blue Strobilanthes)
- **Habitat:**
  - Endemic to high-altitude shola grasslands.
  - Found in five mountain landscapes of southwest India.
  - Elevation: 1,340–2,600 metres.
- **Physical Characteristics:**
  - Shrub up to 3 metres in height.
  - Known for showy synchronous blooming every 12 years.
- **Reproductive Cycle:**
  - Semelparous: Blooms and fruits only once in a lifetime.
- **Distribution:**
  - 34 subpopulations within 14 ecoregions.
  - Predominantly in the Western Ghats (33 subpopulations).
  - One subpopulation in the Eastern Ghats (Yercaud, Shevaroy Hills).
  - Main populations: Nilgiris (Tamil Nadu), Munnar, Palani-Kodaikanal, and Anamalai mountains.
- **Threats:**
  - Habitat loss due to tea and softwood plantations, urbanisation, invasive species, and climate change.
  - Approximately 40% of its habitat has been lost.

2. Kasturba Gandhi Balika Vidyalayas (KGBV)

Source: The Hindu

Context: Lack of transparency in the utilisation of funds, weak infrastructure, shortage of teachers, low salaries, and concerns over student safety are among the challenges identified in an evaluation of 254 Kasturba Gandhi Balika Vidyalayas (KGBV) by the NCERT.

Kasturba Gandhi Balika Vidyalayas (KGBVs):
- **Launch Date:** August 2004
- **Objective:** Provide residential schools at the upper primary level for disadvantaged girls, including those from SC, ST, OBC, and minority communities.
- **Target Areas:**
  - **Educationally backward blocks (EBBs)** with low female literacy.
  - Areas with a **gender literacy gap** above the national average.

- **Reservation:**
  - 75% seats for SC, ST, OBC, and minority girls.
  - 25% seats for girls from families below the poverty line.
- **Scope:**
  - Schools in tribal-concentrated regions.
  - Areas with low female literacy or many girls out of school.
  - SC, OBC, and minority-dense areas.
  - Regions with scattered habitations lacking schools.
- **Eligibility:**
  - Girls from SC, ST, OBC, minority communities, and BPL families.
  - Age group: 14 to 18 years.
  - Girls from areas with low female literacy.
  - Exceptional cases for girls unable to complete primary education.
- **Integration:**
  - Merged with Sarva Shiksha Abhiyan (SSA) from April 1, 2007.
  - SSA integrated into Samagra Shiksha from 2018-19.
  - Provision for upgrading KGBVs to senior secondary level (Classes VI to XII).
- **Capacity:**
  - Schools accommodate 150-250 girls.
  - At least one KGBV for girls from Classes VI-XII in every EBB.

3. Stray dogs within 2 km radius of Corbett Tiger

Source: Deccan Herald

Context: Stray dogs in villages within two-kilometre radius of the Corbett Tiger Reserve's boundaries in Uttarakhand will be vaccinated against the canine distemper virus.

Canine Distemper:
- **Cause:** Canine distemper virus (CDV)
- **Affected Systems:** Respiratory, gastrointestinal, and nervous systems
- **Risk Groups:**
  - All dogs
  - Puppies under four months
  - Unvaccinated dogs
- **Other Hosts:**
  - Ferrets
  - Wild canines (foxes, wolves)
  - Raccoons, skunks
  - Rarely, cats
- **Transmission:**
  - Direct contact or airborne exposure
  - Virus survives briefly in the environment
  - Can be destroyed by most disinfectants
- **Symptoms:**
  - Coughing, fever
  - Discharge from eyes/nose
  - Disorientation, tremors, seizures

- **Treatment:**
    - No cure or antiviral drugs
    - Prevention through vaccination

GS II

4. 20 Sikhs from Afghanistan granted citizenship certificate under CAA

Source: The Hindu

Context: Twenty Afghan Sikhs have recently received Indian citizenship under the Citizenship Amendment Act (CAA), 2019, marking a significant milestone for long-term residents.

Background of Afghan Sikh Migration:
- The **journey of Afghan Sikhs to Indian citizenship has been lengthy and complex.**
- Many of these individuals entered India under **long-term visas (LTVs)**.
- Citizenship applications have faced **delays due to bureaucratic and procedural hurdles.**

Transition from the Citizenship Act, 1955 to the CAA:
- The CAA 2019 streamlined Indian citizenship for non-Muslim minorities, including Afghan Sikhs.
- The **CAA offers a more straightforward pathway to citizenship compared to the Citizenship Act, 1955.**

Key Features of the CAA, 2019:
- **Eligibility:** Grants Indian citizenship to non-Muslim illegal migrants (Hindus, Sikhs, Buddhists, Jains, Parsis, and Christians) from Afghanistan, Bangladesh, and Pakistan who entered India on or before December 31, 2014.
- **Relaxation:** Reduces residency requirement from 11 years to 6 years for these communities and exempts them from prosecution under the Foreigners Act and Passport Act.
- **Exception:** Excludes certain tribal areas and states with "Inner Line" permits.
- Consequences: Citizenship is granted from the date of entry into India, and legal proceedings for illegal migration are closed.
- **OCI Cancellation:** Adds grounds for OCI cancellation if the holder violates a government-notified law.

Conclusion:
The CAA aims to aid persecuted minorities from neighbouring countries by expediting citizenship. While it has benefitted many Afghan Sikhs, efficient processing and resolution of pending cases are essential for meeting its goals.

5. Socio-economic differentials within SCs/STs

Source: The Hindu

Context: Intra-group inequality within SCs and STs challenges India's affirmative action policies, revealing the need for more targeted measures.

Historical Context and Criticisms:
- Affirmative action policies, including **reservations in educational institutions, public employment, and legislative bodies, are designed to promote equality.**
- Treating SCs and STs as homogenous groups fails to acknowledge the significant socio-economic differences among various sub-groups.
- As a result, the benefits of these policies are often skewed towards relatively more advantaged sub-groups within the larger categories, exacerbating intra-group inequalities.

Recent Supreme Court Ruling:
- **Supreme Court Ruling (2004 vs 2024)**: Initially ruled SCs and STs as homogenous, but reversed in August 2024 to **allow sub-classification and sub-quotas.**
- **Objective**: Address **socio-economic disparities within SCs and STs** and **promote substantive equality.**
- **Census Data Highlights**:
  - **SCs**: Musahars (Bihar, UP) are highly disadvantaged compared to Pasis (Bihar) and Chamars (UP). Bhambis (Maharashtra) are better off than Mangs.
  - **STs**: Halba (Chhattisgarh) are more urbanised and educated compared to Baiga. Oraons (Jharkhand, Odisha) are more advanced than Mal Paharia and Bhumia.

Implications for Policy and Practice:
- The persistence of these disparities highlights the need for more nuanced affirmative action policies. Sub-classification within SCs and STs can lead to a more equitable distribution of benefits, ensuring that the most disadvantaged sub-groups receive the support they need. The political class must now address these disparities by implementing sub-quotas and revising reservation policies to better target those in genuine need.

Conclusion:
The recent judicial endorsement of sub-classification within SCs and STs marks a significant shift towards addressing intra-group inequalities. By focusing on sub-groups based on their socio-economic status, India can move closer to achieving its goal of true equality. Future policy decisions should continue to reflect this understanding to ensure that affirmative action benefits all intended beneficiaries more equitably.

6. More and better

Source: The Hindu

Context: Since June 20, when the first Zika virus case was reported in Pune, Maharashtra, the number of confirmed cases has steadily risen. As of early August, Maharashtra has reported 88 cases, with Pune city being the epicentre. This outbreak highlights critical issues in public health response and the urgent need for effective testing and management strategies.

Current Situation:
- The Zika virus outbreak in Maharashtra has primarily affected Pune, with pregnant women facing the highest risk of severe complications.
- Zika virus infection **during pregnancy can lead to microcephaly and other neurological impairments in newborns.**

Health Risks and Transmission:
- In addition to the risks for pregnant women, the **Zika virus poses other concerns**.
- **Men infected with Zika can transmit the virus through semen for at least two months**, necessitating awareness and preventive measures to avoid transmission to partners.

Challenges in Testing and Response:
- The response to the Zika outbreak has been hindered by delays in testing. The **Pune-based ICMR laboratory only accelerated its testing process** after news emerged that the Pune Municipal Corporation planned to send samples to a government medical college to reduce delays. This situation underscores a critical gap in the public health infrastructure.

Lessons from Other Outbreaks:
- Recent experiences with outbreaks, such as the **Nipah virus in Kerala and the Chandipura virus in Gujarat, highlight the necessity for robust testing and sequencing capabilities**.
- The **COVID-19 pandemic demonstrated the benefits of decentralised testing and rapid sequencing**, which proved crucial in controlling the spread of the virus. This model should be adapted for Zika and other pathogens causing frequent outbreaks.

Recommendations:
- **Enhance Testing Capabilities:** States must invest in **high-quality, decentralised testing facilities** to **ensure timely detection and response.** This will facilitate rapid public health interventions and containment measures.
- **Increase Public Awareness: Educate the public about Zika virus transmission and prevention,** particularly the risks associated with sexual transmission and the need for protective measures.
- **Strengthen Public Health Infrastructure:** Develop and maintain **robust testing and sequencing capabilities to manage emerging infectious diseases effectively.** The success of the COVID-19 response provides a framework for handling future outbreaks.

Conclusion: The Zika virus outbreak in Maharashtra serves as a stark reminder of the need for improved public health strategies. By enhancing testing capabilities and learning from past outbreaks, states can better manage and mitigate the impacts of emerging infectious diseases. Timely and effective public health responses are essential in preventing the spread of such viruses and safeguarding public health.

7.Disinformation, AI and 'cyber chakravyuh'

Source: The Hindu

Content: The onset of 2024 has intensified global concerns over new security threats driven by advancements in Artificial Intelligence (AI).

Historical Context of Cyber Threats:
Historically, several cyberattacks have left a profound impact on global security:
- **WannaCry Ransomware (2017):** Infected over 230,000 computers across 150 countries, causing billions in damages.
- **Shamoon Virus (2017):** Targeted oil companies, labelled as the 'biggest hack in history'.
- **Petya Malware (2017):** Disrupted banks and critical infrastructure across multiple continents.
- **Stuxnet Worm (2010):** Inflicted physical damage on Iran's nuclear program, demonstrating the potential for cyberattacks to have real-world consequences.

Growing Cyber Threats:
- **Cyber fraud, phishing, identity theft, and various forms of digital manipulation is escalating**.
- Phishing and identity theft threaten individuals daily, while businesses face increasing risks from cyberattacks.
- Effective protection requires not only technical measures like firewalls and antivirus software but also **robust organisational strategies**, including the **appointment of Chief Information Security Officers (CISOs)** to manage these threats proactively.

The Path Forward:
Addressing the growing digital threat landscape necessitates a multifaceted approach:
- **Enhanced Awareness:** Governments and businesses must raise awareness about digital threats and the importance of cybersecurity measures.
- **Coordinated Action:** There needs to be a coordinated global effort to combat digital threats, including strengthening international cooperation.
- **Investment in Technology:** Both public and private sectors must invest in advanced technologies and strategies to defend against cyber and AI-enabled threats.
- **Regulation and Policy:** Developing and enforcing regulations to manage and mitigate the misuse of AI and other digital technologies is crucial.

Conclusion:
The struggle against digital threats, particularly those fueled by AI and cyber capabilities, is a critical component of contemporary security. As the global community continues to grapple with these evolving challenges, maintaining vigilance, fostering collaboration, and investing in robust defences will be key to safeguarding national and international security.

In Brief

8. The tech that helps vehicles from bumping into each other

Source: The Hindu
Context: Today, we have traffic on the road, in the air, across various water bodies, and — in a dubitable sign of progress — in space. For better or for worse, we can't roll this traffic back very much, so we have collision avoidance systems instead.

Collision Avoidance System:
- **Description:** An indigenously developed **Automatic Train Protection (ATP) system** by Indian Railways, RDSO, and partners.
- **Function:** Uses electronic and **Radio Frequency Identification devices** to control train brakes and alert drivers, preventing signal passing and overspeeding.
- **Applications:**
  - Prevents Signal Passing At Danger (SPAD) and overspeeding.
  - Automatically halts trains if another train is detected on the same line.
  - Enhances visibility and speed control, especially in poor weather conditions.

9. IIT Madras retains top spot in NIRF ranking for sixth consecutive year

Source: The Hindu
Context: IIT Madras has been ranked the top educational institution in India for the sixth time since 2019, according to the NIRF rankings.

Key Highlights from NIRF 2024 Rankings:
- **Top Educational Institution:** Indian Institute of Technology, Madras ranked best overall for the sixth time since 2019.
- **Engineering:** IIT Madras retained the first position in engineering for the ninth consecutive year.
- **Universities:** Indian Institute of Science, Bengaluru ranked top in both the universities and research categories.
- **Management:** Indian Institute of Management, Ahmedabad remained top management institute for the fifth consecutive year.
- **Medical Sciences:** All India Institute of Medical Sciences (AIIMS), New Delhi retained the top spot for medical sciences for the seventh consecutive year.
- **Innovational Institutions:** IIT Bombay ranked best innovative institution, followed by IIT Madras and IIT Delhi.

- **Architecture and Planning:** IIT Roorkee retained its first position in architecture and planning for the fourth consecutive year.
- **Law School:** National Law School of India University, Bengaluru named the best law school for the seventh year in a row.
- **New Categories:** Added categories in 2024: open universities, skill universities, and State public universities.
- **Future Criteria**: Sustainability is likely to be included as a criterion from next year.

10. Vikram Sarabhai's 105th Birth Anniversary

Source: The Hindu

Context: Recently, India celebrated Dr. Vikram Sarabhai's 105th birth anniversary on 12th August, who pioneered India's space program and founded key institutions across various fields.

Dr. Vikram Sarabhai:
- **Birth:** Born in Ahmedabad, 1919.
- **Title:** Father of India's space program.
- **Mentor:** Mentor to A.P.J. Abdul Kalam.
- **Key Establishment:**
  - Founded the Physical Research Laboratory at age 28.
- **Contributions:**
  - Pioneering research on cosmic rays.
  - Established INCOSPAR in 1962, which later evolved into ISRO.
  - Facilitated the transfer of Viking engine technology from France to India.
- **NASA Collaboration:**
  - Key role in the Satellite Instructional T.V. Experiment (SITE) in 1975, which introduced cable TV to India.
- **Honours:**
  - Padma Bhushan (1966).
  - Padma Vibhushan (posthumous, 1972).

Q1.Which of the following statements are correct regarding the WannaCry and Stuxnet cyber attacks?

1. WannaCry ransomware primarily targeted oil companies and was known for its widespread impact on financial institutions.
2. Stuxnet was a sophisticated worm designed to target supervisory control and data acquisition systems, notably affecting Iran's nuclear program.
3. Both WannaCry and Stuxnet are examples of cyber attacks that utilised AI technologies to carry out their operations.

Choose the option given below:
A. Only one
B. Only two
C. All three
D. None of the above

Q2.Which of the following communities are eligible for Indian citizenship under the CAA, 2019?
A. Muslims from Afghanistan
B. Hindus, Sikhs, Buddhists, Jains, Parsis, and Christians from Afghanistan, Bangladesh, and Pakistan
C. Non-Muslim illegal migrants from Nepal
D. All immigrants from Bangladesh

Q3.What is the primary objective of short selling in financial markets?
A. To profit from an increase in stock prices
B. To profit from a decline in stock prices
C. To acquire shares at a discounted rate
D. To provide liquidity by buying and holding shares

Q4.Which of the following statements correctly distinguishes between the Zika virus and the Chandipura virus?
A. The Zika virus is primarily transmitted by mosquitoes, whereas the Chandipura virus is transmitted by fleas.
B. Zika virus primarily causes neurological disorders such as microcephaly in newborns, whereas Chandipura virus is known for causing acute encephalitis syndrome.
C. Chandipura virus is predominantly found in the Americas, while Zika virus is mainly present in Africa and Asia.
D. Zika virus has a long incubation period, while Chandipura virus has a very short incubation period and causes symptoms almost immediately.

Q5.What is the primary objective of the Kasturba Gandhi Balika Vidyalayas (KGBV) scheme?
A. To provide vocational training to girls from economically weaker sections
B. To offer residential schooling for girls from disadvantaged communities at the upper primary level
C. To build infrastructure for higher education in rural areas
D. To promote co-education in primary schools

Q6.Which of the following statements about the canine distemper virus (CDV) is/are correct?

1. The canine distemper virus primarily affects only the respiratory system of dogs.
2. CDV can infect a wide range of mammals, including wild canines, ferrets, and occasionally cats.
3. The virus is resistant to most disinfectants and can persist in the environment for extended periods.

Choose the correct option:
A. 1 and 2
B. 2 and 3
C. 1 and 3
D. 1, 2, and 3

Q7.Which of the following statements about collision avoidance systems is/are correct?
1. Collision avoidance systems are designed to prevent accidents by using sensors and radar to detect and respond to potential collisions in real time.
2. These systems are only used in aviation and are not applicable to ground vehicles.

Choose the correct option:
A. Only 1 is correct
B. Only 2 is correct
C. Both 1 and 2 are correct
D. Neither 1 nor 2 is correct

Q8.Which of the following statements about Jim Corbett National Park is/are correct?
1. Jim Corbett National Park is located in the Indian state of Uttarakhand and is known for its significant population of Bengal tigers.
2. The park was established in 1936 as Hailey National Park, making it the first national park in India.
3. The Ganges River flows through Jim Corbett National Park.

Choose the correct option:
A. Only 1 and 2 are correct
B. Only 2 and 3 are correct
C. Only 1 and 3 are correct
D. All 1, 2, and 3 are correct

Q9.Which of the following regions is famous for the blooming of the Neelakurinji flower?
A. Western Ghats in Tamil Nadu and Kerala
B. Himalayas in Himachal Pradesh and Uttarakhand
C. Eastern Ghats in Andhra Pradesh and Odisha
D. Thar Desert in Rajasthan

Q10.Which institution has been ranked as the top educational institution in India according to the NIRF 2024 rankings?
A. Indian Institute of Science, Bengaluru
B. Indian Institute of Management, Ahmedabad
C. All India Institute of Medical Sciences (AIIMS), New Delhi
D. Indian Institute of Technology, Madras

Solutions

1.Correct Answer is A
Explanation:
- **WannaCry:** This ransomware attack primarily targeted a broad range of organisations worldwide, including healthcare and governmental institutions, not specifically oil companies or financial institutions. It caused widespread disruption by encrypting files and demanding ransom payments.
- **Stuxnet:** This worm was indeed a sophisticated piece of malware designed to target supervisory control and data acquisition (SCADA) systems, specifically targeting Iran's nuclear enrichment facilities. It was notable for its precision and sophistication, causing physical damage to centrifuges.
- **AI Technologies:** Neither WannaCry nor Stuxnet utilised AI technologies. WannaCry used traditional ransomware techniques, while Stuxnet employed advanced but non-AI techniques to achieve its objectives.

2.Correct Answer is B
Explanation: The Citizenship Amendment Act (CAA) of 2019 grants Indian citizenship to non-Muslim migrants from Afghanistan, Bangladesh, and Pakistan. Specifically, this includes Hindus, Sikhs, Buddhists, Jains, Parsis, and Christians who entered India on or before December 31, 2014. The CAA does not extend this eligibility to Muslims from these countries, nor does it cover migrants from Nepal or other countries.

3.Correct Answer is B
Explanation:
Short selling involves borrowing shares and selling them with the intention of buying them back at a lower price. The objective is to profit from the expected decline in the stock's price.

4.Correct Answer is B
Explanation:
- **Zika Virus:** Transmitted by mosquitoes, primarily Aedes species. It is known for causing neurological disorders, especially microcephaly in newborns and other birth defects if contracted during pregnancy.
- **Chandipura Virus:** Also transmitted by mosquitoes, primarily causes acute encephalitis syndrome, which is an inflammation of the brain and can lead to severe neurological symptoms. It is found predominantly in India and has a relatively shorter incubation period compared to Zika virus.

5.Correct Answer is B
Explanation:
The Kasturba Gandhi Balika Vidyalayas (KGBV) scheme aims to provide residential schooling specifically for girls from disadvantaged communities, including Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward Classes (OBCs), and minority groups. The scheme focuses on areas with low female literacy and high rates of girls out of school. By offering education at the upper primary level, KGBV addresses educational disparities and ensures that girls from these backgrounds have access to quality education. This approach is integral to improving educational outcomes and empowerment for disadvantaged girls in difficult regions.

6.Correct Answer is B
Explanation:
- **Statement 1 is Incorrect:** Canine distemper virus affects not only the respiratory system but also the gastrointestinal and nervous systems.
- **Statement 2 is Correct:** CDV can infect various mammals, including wild canines, ferrets, and sometimes cats, though cats are less likely to get sick.
- **Statement 3 is Correct:** The virus does not last long in the environment and is destroyed by most disinfectants; however, it can be shed by infected dogs for several months, putting other dogs at risk.

7.Correct Answer is A
Explanation:
- **Statement 1 is Correct:** Collision avoidance systems use various technologies, including sensors and radar, to detect potential collisions and take actions to prevent them in real time.
- **Statement 2 is Incorrect:** Collision avoidance systems are applicable to both aviation and ground vehicles (e.g., cars, trains), not limited to just aviation.

8.Correct Answer is A
Explanation:
- **Statement 1 is Correct:** Jim Corbett National Park, located in Uttarakhand, is renowned for its Bengal tiger population.
- **Statement 2 is Correct:** The park was originally established as Hailey National Park in 1936 and was renamed Jim Corbett National Park in 1957, in honour of the famed wildlife conservationist Jim Corbett.
- **Statement 3 is Incorrect:** The Ganges River does not flow through Jim Corbett National Park. Instead, the Ramganga River flows through the park.

9.Correct Answer is A
Explanation:
The Neelakurinji (Strobilanthes kunthiana) is renowned for its mass blooming in the Western Ghats of Tamil Nadu and Kerala. This endemic shrub blooms once every 12 years, creating a spectacular display of purplish-blue flowers in the high-altitude shola grasslands of these regions.

10.Correct Answer is D
Explanation: IIT Madras has been ranked the top educational institution in India for the sixth consecutive year since 2019, as per the NIRF 2024 rankings.

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