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1 Dec 2022: UPSC Exam Comprehensive News Analysis

> "Courage is not having the strength to go on; it is going on when you don't have the strength"
>
> - Theodore Roosevelt

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A. GS 1 Related

Nothing here for today!!!

B. GS 2 Related

Nothing here for today!!!

C. GS 3 Related

Category: SECURITY

1. Are ransomware attacks increasing in India?

Syllabus: Challenges to internal security through communication networks and the basics of cyber security

Prelims: About ransomware and other types of cyber attacks and Intelligence Fusion and Strategic Operations (IFSO)

Mains: Details about ransomware and other types of cyber attacks and the agencies that deal with cybercrimes in India

Context: The e-services at the All-India Institute of Medical Sciences (AIIMS) were recently affected by a suspected ransomware attack.

Details

- AIIMS has a Local Area Network (LAN) which consists of over 6,500 computers and supports the institute, hospital, centres and other departments.
- Due to the cyber attacks, most of the servers stopped working and also the eHospital network which is managed by the National Informatics Centre (NIC).
- The Delhi Police's Intelligence Fusion and Strategic Operations (IFSO) have initiated investigations and due to the pending sanitisation of the LAN and its nodes, all the critical hospital services are at present being executed manually.
- Unofficial reports suggest that cyber criminals have demanded about ₹200 crores in cryptocurrency as ransom.

Intelligence Fusion and Strategic Operations (IFSO)

- IFSO is the cybercrime unit of the Delhi Police.
- IFSO is a specialised unit that manages complex and sensitive cybercrime cases, including those in which the victims are women and children.
- IFSO is equipped with a cutting-edge cyber lab with cyber forensic capabilities, the ability to recover deleted data, forensic servers, and portable forensic tools.
- It was earlier known as Cyber Prevention Awareness Detection (CyPAD) and was renamed IFSO in 2021.
- IFSO has been involved in some of the most sensitive cybercrime cases such as the Bulli Bai case and the Sulli deal app case.

Ransomware attacks

- Ransomware is a category of malicious cyber attack software, used by cybercriminals.
- This malicious software first infects a computer system by blocking access to the stored data by encrypting the files and later demands a ransom amount from the owner in exchange for the decryption key.
- These types of malware usually are injected remotely by manipulating the user into downloading it upon clicking a link sent through email or other means.
- The ransomware malware has the ability to spread throughout the network by exploiting existing network vulnerabilities.
- Ransomware attacks can also facilitate the theft of sensitive and confidential data for evil motives.

Read more about - [Other Types of Cyber Attacks](#)

Instances of ransomware attacks and their threat

- Analysis of the cyber attacks on AIIMS networks reveals that about five of the AIIMS' servers that hosted data of over three crore patients were compromised.
- Similar attacks were carried out in May 2022 on Spicejet which led to the cancellation and delays of several flights.
- The public sector undertaking Oil India (OIL) was targeted in April 2022 in Assam and the attackers demanded ₹57 crores as ransom.
- IT firm Tech Mahindra was also impacted by a ransomware attack that targeted multiple servers of the Pimpri Chinchwad Smart City project and caused losses of about ₹ 5 crores in 2021.

- Cybercriminals used RobinHood ransomware to attack the systems of power distribution companies in Telangana and Andhra Pradesh in 2019. This attack endangered the data of over 3.5 lakh individuals.
- Cybersecurity firm Trellix, in its report, has said that there are about 25 major types of ransomware in circulation.
- As per Interpol's first-ever Global Crime Trend report presented at its 90th General Assembly meeting held in Delhi recently, ransomware at 66% was ranked as the second highest threat after money laundering and is also expected to increase the most.

Agencies that deal with cyber-crimes in India

- The **Indian Computer Emergency Response Team (CERT-In)** is the national-level nodal agency that collects, analyses and circulates inputs on cyber-attacks.
  - CERT-In is further tasked with issuing guidelines, recommending preventive measures, forecasting, alerting and extending training.
  - CERT-In is also responsible for undertaking measures to handle any significant cyber security event.
- The **National Cyber Security Coordinator (NCSC)** under the National Security Council Secretariat, coordinates with various agencies at the national level on cybersecurity issues.
- The **National Critical Information Infrastructure Protection Centre (NCIIPC)** which has been established under Section 70A of the Information Technology Act, 2000 is entrusted with the protection of the critical information infrastructure of the country.
- The **Cyber Swachhta Kendra** (Botnet Cleaning and Malware Analysis Centre) has been set up for the detection of malicious software programmes and to provide free tools to address the issues of malicious software.
- The **National Cyber Coordination Centre** is tasked with creating awareness about existing and potential threats.

Way forward

- The recent instances of cyber attacks have made it important to implement the National Cyber Security Strategy which has been conceptualised by the Data Security Council of India. This strategy will ensure that adequate preparedness is in place to deal with cyber attacks.
- Adequate budgets must be allocated to various ministries to enhance their cyber security systems.
- Capacity enhancement of all the agencies that deal with cyber crimes in India have to be undertaken at the earliest.
- Further, it is important for India to garner international cooperation and support for countering cyber-attacks.

Nut graf: With instances of ransomware attacks and cyber attacks increasing significantly in recent years due to an accelerating rate of digitalisation, it has become essential to ensure that all necessary safety protocols are in place and measures are to be undertaken immediately in order to thwart any such attack in the future.

D. GS 4 Related

Nothing here for today!!!

E. Editorials

Category: SOCIAL JUSTICE

1. Micronutrient malnutrition

Syllabus: Issues Relating to Development & Management of Social Sector/Services–Health

Mains: Status of Hunger and Malnutrition in India

Context: India's slip in the 2022 ranking of the Global Hunger Index has brought back the focus on India's malnutrition problem.

Status of Malnutrition in India:

- Malnutrition persists due to depressed economic conditions in large parts of the country, the poor state of agriculture in India, persistent levels of unsafe sanitation practices, etc.
- Malnutrition exacerbates the magnitude of the public health crises we face, and is India's most serious challenge and concern.
- India's ranking in Global Hunger Index 2022 is 107 (slipped from the 2021 index of 101) out of 121 countries.
    - Barring war-torn Afghanistan, India has performed worse than all the countries in the South Asian region in the Global Hunger Index 2022.
    - The Hunger Index measures countries' performance on four component indicators – undernourishment, child wasting, child stunting and child mortality.
- India's National Family Health Survey (NFHS-5) from 2019-21 reported that in children below the age of five years, 35.5% were stunted, 19.3% showed wasting, and 32.1% were underweight and every second Indian woman is anaemic.
- According to the FAO Food Security Report for 2021, India has a 15.3% undernourished population, the highest proportion of stunted children (30%), and wasted children (17.3%).

- The picture from the Global Nutrition Report 2021 shows that stunting among children in India is significantly higher than the Asian average of 21.8%.
- Iron deficiency anaemia is responsible for 3.6% of disability-adjusted life years or DALYs (years of life lost due to premature mortality and years lived with disability) according to the World Health Organization (WHO) — i.e., a loss of 47 million DALYs, or years of healthy life lost due to illness, disability, or premature death.

Food fortification to tackle malnutrition:

- Since the 1920s, developed countries and high-income countries have successfully tackled the issue of malnutrition through food fortification.
- Of late, the low-and middle-income countries, such as India, have pursued food fortification as one of the strategies to tackle micronutrient malnutrition.
    - Food fortification is the process of adding nutrients to food. For instance, rice and wheat are fortified with iron, folic acid and vitamin B12, and salt is fortified with iron and iodine.

Fortified Rice to tackle Anaemia:

- Rice forms the major staple diet of 65% of the population in India.
- Experiences from the different States on the fortified rice project are similar to the results of global programmes that use fortified food as a cost-effective strategy to tackle anaemia.
- The health benefits because of food fortification have made 80 countries frame laws for the fortification of cereal flour, and 130 countries with iodised salt, where 13 countries have mandated rice fortification.
- Pilot projects on the distribution of fortified rice have been taken up in select States, including Maharashtra as part of a targeted public distribution programme for the masses.
    - The programme has been a success in terms of preventing cases of anaemia — from 58.9% to 29.5% — within a span of two years.
- The Union government has declared its intent to increase the distribution of fortified rice through the existing platform of social safety nets such as the PDS, ICDS and PM-POSHAN.
- According to NITI Aayog, a rice fortification budget of around ₹2,800 crore per year can save 35% of the total or 16.6 million DALYs per year with no known risk of toxicity.
- Rice fortification, which costs less than 1% of the food subsidy bill (2018-19), has the potential to prevent 94.1 million anaemia cases, saving ₹8,098 crore over a five-year period.

Case Study - Noon meal scheme in Gujarat:

- In Gujarat, an eight-month-long study on multiple micronutrient-fortified rice intervention for schoolchildren (06-12 years) in 2018-2019, as part of the Midday Meal Scheme, found increased haemoglobin concentration, 10% reduction in anaemia prevalence, and, more importantly, improved average cognitive scores (by 11.3%).

Way Forward:

- Excess iron overload from fortified rice has been dangerous for Jharkhand's tribal population suffering from sickle cell anaemia and thalassaemia.
- Food fortification is a cost-effective complementary strategy to address multiple micronutrient deficiencies.
- Given its proven efficacy and cost-effectiveness, food fortification can help India in reducing micronutrient deficiencies and address overall health benefits.

Nut Graf: Underfunding and underutilisation of key nutrition schemes are among the significant reasons behind India's multi-dimensional nutrition challenge. Various interventions regarding food fortification in India carried out with precautions, are the key to the malnutrition issue the nation continues to grapple with.

Category: POLITY

1. Independence of Election Commission

Syllabus: Election Commission of India

Mains: Election Commission of India and its functions

Context: The ongoing hearing before the Supreme Court on the need to have a neutral mechanism for the appointment of Election Commissioners raises questions on the body's functional independence.

Introduction:

- A five-judge Constitution Bench of the Supreme Court is examining a bunch of petitions recommending reforms in the process of appointment of members of the Election Commission.
- A batch of four public interest litigations (PILs) pressed for the issuance of directives to the Centre for setting up a neutral and independent selection panel for recommending names to the President for appointments as CEC and ECs.

- The Supreme Court Bench is also expected to examine electoral reforms suggested to governments by successive Election Commissions over the last two decades or so.
- A list of over 20 reform proposals was compiled in 2004. More proposals were added to the list over time and are pending with the government.
- These range from strengthening the Commission's inherent structure to handling the misuse of muscle and money power during elections that violate the Model Code of Conduct.

Current issues with appointments:

- At present, ECI is a three-member body, with a CEC and two ECs. Under Article 324(2) of the Constitution, the President is empowered to appoint the CEC and ECs.
- This provision further stipulates that the President, who acts on the aid and advice of the Prime Minister and the council of ministers, will make the appointments 'subject to the provisions of any law made in that behalf by Parliament'.
- However, with no such law having been framed till date, CEC and ECs are appointed by the Prime Minister and the council of ministers under the seal of the President. The rules for such appointments are also silent on the qualification of a candidate.
- This may result in the
    - likelihood of bias in the appointments
    - possibility of biased conduct by CEC and ECs in the future
    - scope for personal whimsy in appointments of EC
- Uncertainty over the elevation of an Election Commissioner to the post of CEC makes them vulnerable to government pressure.
- The ECs must also be provided with security of tenure as they can be removed from office on the CEC's recommendation.
    - Without the security of tenure, they may hesitate to act independently, which they otherwise might if they were truly secure.

Various recommendations on appointments to Election Commission:

- The Dinesh Goswami Committee in 1990 suggested that the Chief Election Commissioner be appointed by the President in consultation with the Chief Justice of India and the Leader of the Opposition (and in case the Leader of the Opposition was not available, then consultation be held with the leader of the largest opposition group in the Lok Sabha). It said this process should have statutory backing.
    - It also applied the same criteria to the appointments of Election Commissioners, along with consultation with the Chief Election Commissioner.
- The National Commission to Review the Working of the Constitution, under Justice M.N. Venkatachaliah, said that the Chief Election Commissioner and other Election Commissioners should be appointed on the recommendation of a body comprising the

Prime Minister, the Leaders of the Opposition in the Lok Sabha and the [Rajya Sabha](link), the Speaker of the Lok Sabha and the Deputy Chairman of the Rajya Sabha.

- The 255th Report of the Law Commission, chaired by Justice A.P. Shah, said the appointment of all the Election Commissioners should be made by the President in consultation with a three-member collegium consisting of the Prime Minister, the Leader of the Opposition of the Lok Sabha (or the leader of the largest opposition party in the Lok Sabha), and the Chief Justice of India.
  - It also suggested measures to safeguard Election Commissioners from arbitrary removal similar to the Chief Election Commissioner, who can only be removed by impeachment.
- The Supreme Court in its judgement in the T.N. Seshan case 1995, conferred equal powers on the Election Commissioners as those enjoyed by the Chief Election Commissioner and even offered majority power, whereby any two can overrule even the Chief Election Commissioner.

Way Forward:

- Accepting and implementing various recommendations made by previous Commissions would go a long way in strengthening the independence of the Election Commission.
- The Chief Election Commissioner and Election Commissioners should be appointed by a collegium.
- The collegium should be wide-based with selection by the top constitutional luminaries of the country.
- The Election Commission must also be protected equally from arbitrary removal with a constitutional amendment to provide the same removal process to other election commissioners that currently applies only to the Chief Election Commissioner.

Nut Graf: *The ECI helps in conducting elections with the highest standard of credibility, fairness, transparency, integrity, accountability, autonomy and professionalism which is crucial for a vibrant Democracy. Accepting reforms mooted by previous panels will strengthen the Election Commission's independence.*

F. Prelims Facts

Nothing here today!!!

G. Tidbits

1. 160-200 mn Indians could be exposed to lethal heat waves annually: World Bank report

- According to a World Bank report titled "Climate investment opportunities in India's cooling sector", from 2030, about 16 crore to 20 crore people would be exposed to lethal heatwaves in India every year, and close to 3.4 crore people in the country will experience job losses due to heat stress-related productivity decline.
  - Further, the report notes that by 2037, the demand for cooling would likely be eight times more than the current level.
- The report says that considering the situation, it is important for India to deploy alternative and innovative energy-efficient technologies for keeping spaces cold as this move can unlock an investment opportunity of $1.6 trillion by 2040, reduce greenhouse gas emissions and help generate over 37 lakh jobs.
- The increase in the heatwave is expected to shoot up the demand for cooling through air-conditioners which would result in a rise of annual greenhouse gas emissions by over 435% in the next 20 years. Therefore, there is a need to shift to more energy-efficient measures which could bring about a reduction in the expected emission levels.
- The report recommends a road map to support India Cooling Action Plan (ICAP), 2019 via investments in three major sectors namely building construction, cold chains and refrigerants.
- The report notes that adopting climate-responsive cooling techniques as a norm in public and privately funded constructions will help ensure that the marginalised sections in the economic ladder are not disproportionately affected by increasing temperatures.
  - Such techniques can be adopted in schemes such as the Pradhan Mantri Awas Yojana (PMAY).
- The report also has recommended enacting a policy for "district cooling", which can save up to 20-30% of power than the most efficient conventional cooling solutions.
  - District cooling technologies refer to the generation of chilled water in a central plant which is distributed to buildings through underground insulated pipes. This brings down the cost of providing cooling to individual buildings.

2. 16 drones shot down along Pak. border this year: BSF

- The Border Security Force (BSF) Director-General has said that BSF has struck down about 16 drones in areas bordering Pakistan in 2022.
- According to the Director-General of BSF, drones have emerged as one of the key challenges for the defence forces and there is still a lack of any foolproof anti-drone technologies in the country.

- Further, the Director-General also said that new technologies are being tested to detect the drones and BSF has been collaborating with the State police for patrolling in-depth areas to seize items such as drugs and arms that are dropped by the drones.
- Such drones have a unique chip carrying information about their flight path and other details based on which individuals behind such acts can be identified and arrested.
- Various anti-drone systems with different capabilities are currently deployed on the border. Further, the procurement of a vehicle-mounted system is also under consideration by the Union Home Ministry and about ₹30 crores are sanctioned to deploy 5,500 surveillance cameras along the borders.

3. China warns U.S. not to interfere in its relations with India

- China has expressed its concern in the wake of the conducting of the Yudh Abhyas which is a joint India-U.S. military exercise about 100 km from the Line of Actual Control (LAC),
- According to the Chinese Foreign Ministry, the joint military exercise between India and the U.S. close to the LAC violates the spirit of the agreements signed between India and China in 1993 and 1996 and does not serve the mutual trust between India and China.
- The U.S. Department of Defence in its latest report has said that China seeks to "prevent" tensions along the LAC from pushing India "to partner more closely" with the U.S. and has warned American officials "not to interfere" with its relationship with India.
- Further, referring to the Galwan Valley clash of June 2020, the report notes that the Western Theatre Command conducted large-scale mobilisation and deployment of PLA forces and due to the sustained military development along the LAC, the Western Theatre Command's deployment is likely to continue through 2022.
- The report also noted that "Throughout the stand-off, the People's Republic of China officials sought to downplay the severity of the crisis, emphasising China's intent to preserve border stability and prevent the stand-off from impacting other areas of its bilateral relationship with India".

4. Kerala's man-animal conflict mitigation team selected for Wildlife Trust of India award

- An eight-member team from Chinnakkanal under the Munnar forest division, which has played a significant role in reducing the incidents of man-animal conflict in the region, has won recognition for its efforts.
- The Wildlife Trust of India has selected the team for its award for the current year considering the contributions of the team in mitigating man-animal conflicts and also ensuring the protection of wild elephants.
- The team, which was set up after a 60-year-old man was trampled to death by a wild elephant at Sinkukandam, starts its work at around 5 a.m. and provides key information about the movements of wild elephants in the Chinnakkanal region through WhatsApp

groups and this information has helped the people to be aware of the presence of wild elephants in the area.

H. UPSC Prelims Practice Questions

Q1. Consider the following statements with regards to the Great Indian Bustard:
(Level – Easy)

a) The Great Indian Bustard is the State bird of Rajasthan.
b) The International Union for Conservation of Nature Red List (IUCN) of GIB is Critically Endangered.
c) It is kept under the species recovery programme under the Integrated Development of Wildlife Habitats of the Ministry of Environment, Forests and Climate Change (MoEFCC).

Choose the correct code:

1. One statement is correct
2. Two statements are correct
3. All statements are correct
4. None of them

Answer: c

Explanation:

- **Statement 1 is correct**, The Great Indian Bustard is the State bird of Rajasthan.
- **Statement 2 is correct**, The International Union for Conservation of Nature Red List (IUCN) of GIB is Critically Endangered.
- **Statement 3 is correct**, GIB is kept under the species recovery programme under the Integrated Development of Wildlife Habitats of the Ministry of Environment, Forests and Climate Change (MoEFCC).

Q2. Consider the following statements with regards to GVA (Gross Value Added):
(Level – Medium)

1. While GVA gives a picture of the state of economic activity from the producers' side or supply side, the GDP gives the picture from the consumers' side or demand perspective.
2. GVA is defined as the value of output minus the value of intermediate consumption.
3. GVA is as susceptible to vulnerabilities from the use of inappropriate or flawed methodologies as any other measure.

Choose the correct code:

a) 1 & 3 only
b) 2 & 3 only
c) 1 only
d) All of the above

Answer: d

Explanation:

● **Statement 1 is correct**, GVA (Gross Value Added) provides a picture of the state of economic activity from the producers' side or supply side, whereas the GDP (Gross domestic product) provides the picture from the consumers' side or demand perspective.
● **Statement 2 is correct**, GVA (Gross Value Added) is defined as output (at basic prices) minus intermediate consumption (at purchaser prices).
● **Statement 3 is correct**, GVA is as susceptible to vulnerabilities from the use of inappropriate or flawed methodologies as any other measure.

Q3. Which of the following is not true about the Khel Ratna award? (Level – Medium)

a) The Khel Ratna award was instituted in 1991-1992 and the first recipient was Chess legend Viswanathan Anand.
b) Khel Ratna Award is the highest sporting award given by the Ministry of Youth Affairs and Sports for the spectacular and most outstanding performance in the field of sports by a sportsperson over a period of ten years.
c) In 2001, sport shooter Abhinav Bindra, then aged 18, became the youngest recipient of the award
d) The award from 1991-2021 was named after Rajiv Gandhi, former Prime Minister of India.

Answer: b

Explanation:

● The Khel Ratna award was started in 1991-1992 and Viswanathan Anand was the first recipient of the award.
● The Khel Ratna Award is the highest sporting award given by the Ministry of Youth Affairs for the spectacular and most outstanding performance in the field of sports by a sportsperson over the period of the previous **four years.**
● Shooter Abhinav Bindra is the youngest recipient of the Khel Ratna Award. The Olympic gold medalist was conferred the award in 2001 at the age of 18.

- The award from 1991-2021 was named after Rajiv Gandhi, former Prime Minister of India and has now been renamed as Major Dhyan Chand Khel Ratna Award.

Q4. Consider the following statements with regards to the GM crops in India: (Level – Easy)

1. Bt cotton, the only GM crop that is allowed in India, has two alien genes from the soil bacterium Bacillus thuringiensis (Bt) that allows the crop to develop a protein toxic to the common pest pink bollworm.
2. In India, the Genetic Engineering Appraisal Committee (GEAC) is the apex body that allows for the commercial release of GM crops.
3. Since the introduction of Bt. Cotton in India in 2002-03, the area under its cultivation has hardly increased.

Choose the correct code:

a) 1 & 2 only
b) 2 & 3 only
c) 1 & 3 only
d) All of the above

Answer: a

Explanation:

- **Statement 1 is correct**, Bt cotton is the only Genetically Modified (GM) crop allowed in India and it has two alien genes from the soil bacterium Bacillus thuringiensis (Bt) that allows the crop to develop a protein toxic to the common pest pink bollworm.
- **Statement 2 is correct**, The Genetic Engineering Appraisal Committee (GEAC) is the apex body that allows for the commercial release of GM crops in India.
- **Statement 3 is not correct**, The area under cultivation, production and productivity of Bt. cotton has **increased significantly** since its introduction in India in 2002-03.
  - The area under cultivation which was hardly 86.24 lakh hectare in 2002-03 had increased to 125.84 by 2019-20.

Q5. The painting of Bodhisattva Padmapani is one of the most famous and oft-illustrated paintings at (Level – Difficult) PYQ (2017)

a) Ajanta
b) Badami
c) Bagh
d) Ellora

Answer: a

Explanation:

- The painting of Bodhisattva Padmapani is one of the most famous and oft-illustrated paintings at **Ajanta**
- Important paintings at Ajanta include:
  - Scenes from the Jataka stories of the life of the Gautama Buddha, the Buddha's former life as a bodhisattva, etc.
  - Paintings of various Bodhisattvas in tribhanga pose in Cave 1: Vajrapani (protector and guide, a symbol of Buddha's power), Manjusri (manifestation of Buddha's wisdom) and Padmapani (Avalokitesvara) (symbol of Buddha's compassion).
  - The Dying Princess in Cave 16.

I. UPSC Mains Practice Questions

1. What is a ransomware? Evaluate the cyber security threat it poses and discuss the measures to be adopted to counter them. (250 words; 15 marks) (GS-3; Internal Security)
2. Heat waves have a devastating impact on weaker sections and is seen to be increasing in its frequency and impact. Examine. (250 words; 15 marks) (GS-3; DM)