

GS PAPER 2- GOVERNANCE- GOVERNMENT POLICIES AND INTERVENTIONS FOR DEVELOPMENT IN VARIOUS SECTORS AND ISSUES ARISING OUT OF THEIR DESIGN AND IMPLEMENTATION
On ANI Vs Wikipedia Case

The article discusses ANI's lawsuit against Wikipedia for defamation due to claims of spreading government propaganda. It details the Delhi High Court's actions, Wikipedia's stance on neutrality, previous censorship issues, and global challenges faced by Wikipedia.

Why did ANI sue Wikipedia?

1. **Defamatory Description:** Asian News International (ANI) sued Wikipedia due to being described as a source of government propaganda. Wikipedia's page on ANI claimed the news agency served as a propaganda tool for the central government.
2. **Specific Allegations:** ANI was accused of distributing materials from fake news websites and misreporting events, based on sources like The Diplomat, EU DisinfoLab, and The Caravan magazine.
3. **Edit War:** Wikipedia's ANI page faced continuous edits by users after new reports scrutinized ANI's credibility in 2020. This led to a long "edit war."
4. **Lawsuit:** ANI found these claims defamatory and demanded ₹2 crore in damages, filing a lawsuit against Wikipedia's parent organization, the Wikimedia Foundation, in the Delhi High Court.

What has the Delhi High Court ordered?

1. On August 20, 2023, the Delhi High Court, under Justice Navin Chawla, ordered Wikimedia Foundation to provide details of three users who edited the ANI page on Wikipedia.
2. Wikimedia was instructed to serve a summons to these users to appear in the case.
3. ANI filed a contempt application, leading to the judge threatening to block Wikipedia in India if Wikimedia didn't comply.
4. The court directed an "authorized representative" from Wikimedia to be present at the next hearing on October 25, 2023.

Has Wikipedia faced similar issues in other countries?

1. Wikipedia has faced similar issues in other countries, including Russia and Germany.
2. In Russia, editors have been arrested since the country's invasion of Ukraine, facing intimidation for their work on Wikipedia.
3. In 2019, a German court ordered Wikipedia to remove content about academic Alex Waibel, showing legal challenges in Germany.
4. Wikipedia also routinely faces lawsuits in the U.S., but most cases are dismissed due to strong protections for web platforms.
5. In China, Wikipedia has been blocked for years, highlighting censorship issues in restrictive environments.
6. Russia developed a forked version, Ruwiki, complying with its narratives.

GS PAPER2- ISSUES RELATING TO DEVELOPMENT AND MANAGEMENT OF SOCIAL SECTOR/SERVICES RELATING TO HEALTH
Ovarian cancer, known as a "silent killer"

The article discusses ovarian cancer, its vague symptoms, risk factors, and challenges in early detection. It highlights genetic links, lifestyle risks, and the lack of reliable screening tests. Raising awareness can improve early diagnosis, treatment, and survival outcomes.

Why is ovarian cancer dangerous and hard to detect?

1. Ovarian cancer is often called a "silent killer" because its **symptoms are vague and mimic common ailments**.
2. Symptoms include bloating, pelvic pain, loss of appetite, feeling full quickly, and frequent urination. These symptoms are often mistaken for less serious conditions. Because of the overlap with common conditions, **ovarian cancer is often diagnosed late**, leading to a poor prognosis and high mortality.
3. A 2004 study showed that women with malignant ovarian cancer experienced these symptoms 20 to 30 times per month, much more severely than those without the disease.
4. In 2022, India reported 47,333 new ovarian cancer cases and 32,978 deaths, highlighting its severity.
5. Unlike breast or cervical cancer, there is **no reliable screening test for ovarian cancer**. The **CA125 blood test is not recommended for average-risk women due to its limited accuracy**. It may cause false positives and unnecessary treatments.
6. There are **two main subtypes: type I and type II**. Type I tumors are less common and usually detected early with a better prognosis. Type II tumors are more common, aggressive, and diagnosed late, contributing to most ovarian cancer deaths.

How do genetics and lifestyle factors influence ovarian cancer risk?

1. **Genetics:** Ovarian cancer is highly heritable, with 65-85% of hereditary cases linked to BRCA1 and BRCA2 gene mutations. Women with BRCA1 mutations have up to a 50% risk, while BRCA2 mutations pose a 15% risk.
2. **Genetic Testing:** Genetic testing allows for personalized risk management, including tailored clinical surveillance, chemoprevention, and prophylactic surgeries, which help reduce ovarian cancer risk in high-risk women.
3. **Endometriosis:** Women with endometriosis, a condition where tissue similar to the lining of the uterus grows outside it, have a slightly increased risk of developing specific types of ovarian cancer, such as endometrioid and clear-cell cancers.

However, this risk is generally low, and drastic measures like removing the ovaries and fallopian tubes (bilateral salpingo-oophorectomy) are not usually recommended solely to prevent ovarian cancer in these cases.

4. **Lifestyle Factors:** Use of talcum powder and chemical hair products like dyes and relaxers may increase ovarian cancer risk. Hormone Replacement Therapy (HRT) also raises the risk, even with less than five years of use. More research is needed to confirm these links, especially regarding modern talcum powders and hair products.

What Should be Done?

1. Awareness of ovarian cancer's risk factors, symptoms, and genetic links can lead to earlier detection and better treatment.
2. Personalized risk management and genetic counseling can reduce the likelihood of developing the disease.

GS PAPER 2 – ISSUES RELATING TO DEVELOPMENT AND MANAGEMENT OF SOCIAL SECTOR/SERVICES RELATING TO HEALTH

Growing threat of antimicrobial resistance (AMR) due to antibiotic misuse and pollution

The post growing threat of antimicrobial resistance (AMR) due to antibiotic misuse and pollution has been created, based on the article “**What is anti-microbial resistance (AMR) and why is it a grave threat?**” published in “**Indian Express**” on 11th August 2024.

Context: The article discusses the growing threat of antimicrobial resistance (AMR) due to antibiotic misuse and pollution. It emphasizes the need for better hygiene, vaccinations, proper antibiotic use, and stricter regulations on pharmaceutical waste to prevent drug-resistant infections globally. Ahead of the United Nations conference on September 26, the WHO published its first guidance on antibiotic pollution, emphasizing its global threat.

What is Antimicrobial Resistance (AMR)?

AMR is when a pathogen survives despite the use of antimicrobial drugs. It occurs due to the misuse or overuse of antibiotics. This creates superbugs, which are resistant to medicines. These superbugs spread in hospitals, water, and sewers.

Why is AMR a Concern?

1. AMR makes common infections harder to treat, leading to complications. For example, urinary tract infections now often require hospitalization. In hospitals, AMR leads to longer stays and more expensive treatments.
2. Overuse of antibiotics, like Norfloxacin for diarrhea, has rendered them ineffective.
3. AMR can spread through water, sewers, and hospitals, worsening healthcare outcomes.

Why is AMR Increasing in India?

1. **Individuals:** Many Indians use antibiotics without medical advice. Antibiotics are used even for viral infections like the flu, which doesn't need them. This increases resistance.
2. **Doctors:** Many doctors prescribe broad-spectrum antibiotics unnecessarily. A survey showed that 71.9% of patients in hospitals were given antibiotics, with 55% prescribed not for treatment but for prevention.
3. **Pharma Companies:** Antibiotic pollution from manufacturing sites contributes to AMR. WHO released guidelines on managing pharmaceutical waste to reduce pollution.

Which Pathogens are Most Resistant in India?

1. **E. coli:** Resistance to carbapenem, a strong antibiotic, dropped from 81.4% in 2017 to 62.7% in 2023.
2. **Klebsiella pneumoniae:** Susceptibility to carbapenem medicines reduced from 58.5% to 35.6% and 48% to 37.6% from 2017 to 2023.
3. **Acinetobacter baumannii:** Its resistance to carbapenems was 88% in 2023, showing a high level of resistance.

What Measures Can Be Taken to Combat AMR?

1. **Prevention:** Improving hygiene and encouraging vaccinations, like the pneumococcal and flu vaccines, can reduce infections.
2. **Education:** Doctors should prescribe antibiotics only when necessary and use diagnostic tests to confirm infections.
3. **Regulation:** Pharmaceutical waste management should be improved to prevent the spread of resistant bacteria from manufacturing facilities.

GS PAPER-2- BILATERAL, REGIONAL AND GLOBAL GROUPINGS AND AGREEMENTS INVOLVING INDIA AND/OR AFFECTING INDIA'S INTERESTS

India's potential role in peace diplomacy for Ukraine

The article discusses India's potential role in peace diplomacy for Ukraine. It highlights the complex situation involving Russia, Ukraine, the US, and Europe. India supports peace but must be aware of its limitations in influencing the outcome of this conflict.

What is India's Role in Ukraine Peace Talks?

1. India supports peace in Ukraine and has advocated for dialogue since Russia's invasion in February 2022.
2. Russia welcomes India's involvement, as noted by President Putin's openness to diplomacy from India, Brazil, and China.
3. External Affairs Minister Jaishankar and National Security Adviser Doval have engaged in European and Russian discussions.
4. Hungary's peace efforts, led by Prime Minister Orban, have briefed Indian leadership on their initiatives.
5. However, peace in Ukraine depends on a new agreement between Russia and the US, with India's role remaining supportive but limited.

What Recent Moves Have Been Made Towards Peace?

1. **Global South Diplomacy:** Russia's President Vladimir Putin welcomed peace diplomacy from Brazil, China, and India. Ukraine's President Zelenskyy also supports involvement from Global South nations.
2. **Upcoming Peace Conference:** German Chancellor Olaf Scholz emphasized the need for a peace conference in November, suggesting Russia's participation. This would be a step forward, as Russia was excluded from a previous conference in June.
3. **Hungarian Peace Initiative:** Hungarian Prime Minister Viktor Orban met key actors like Putin, Xi Jinping, and Trump to push for peace. He reported that the US, China, and the EU have the capacity to influence the war dynamics.
4. **Indian Diplomacy:** India's External Affairs Minister Jaishankar visited Europe, National Security Adviser Doval traveled to Moscow, and Prime Minister Modi consulted with Quad leaders, showing India's growing engagement.

What Challenges Are Faced in Achieving Peace?

1. **US-Russia Tensions:** Peace depends on a new security order between the US and Russia, as they shaped European security after World War II and in 1991.
2. **Upcoming US Elections:** Both Putin and Zelenskyy are watching the US elections, as it will influence peace efforts.
3. **EU Division:** The European Union is split on how to handle the war, with some supporting Ukraine and others, like Hungary, pushing for peace talks.
4. **Continued Fighting:** As winter nears, both Russia and Ukraine are still fighting to gain territory before peace talks.

How Could the War Impact India?

1. **Geopolitical Realignment:** The war may lead to a reorganization of Europe's political landscape. This could affect India's international relations as new global and regional orders emerge.
2. **Economic Consequences:** The conflict has already put pressure on India's economy. Restoring peace would help India accelerate economic growth, essential for its development.
3. **Security Challenges:** India's security policies are impacted by the instability in Europe. Peace between Russia and the West would help India focus on ensuring security in Asia.
4. **Diplomatic Role:** India's active participation in peace diplomacy, as seen in its dialogue with Hungary and Europe, enhances its global influence.

ENVIRONMENT GS PAPER III

National Board for Wildlife

Recently, the **Standing Committee of the National Board for Wildlife** has cleared a controversial transmission line project that sparked protests amid concerns over deforestation in **Goa Mollem National Park**.

About National Board for Wildlife

- It is a "Statutory Organization" constituted under the **Wildlife Protection Act, 1972**.
- Its role is "advisory" in nature and advises the Central Government on framing policies and measures for conservation of wildlife in the country.
 - **For Example: No alteration of boundaries** in national parks and wildlife sanctuaries can be done without approval of the NBWL.
- The Board is responsible for promotion of conservation and development of wildlife and forests
- **Members:**
 - **Chairperson:** Prime Minister is the Chairperson
 - **Vice-Chairperson:** The Minister in charge of the Ministry of Environment & Forests in the Central Government is the Vice-Chairperson.
 - **Member-Secretary to the Board:** The Additional Director General of Forests (WL) & Director, Wildlife Preservation is the Member-Secretary to the Board.
 - **3 parliament members** (two from Lok Sabha and one from Rajya Sabha)
 - 5 NGOs
 - 10 eminent conservationists, ecologists and environmentalists
 - Government secretaries of various departments
 - Chief of army staff

About Mollem National Park

- It is **located in Goa** and is a 107 sq km area **within the Bhagwan Mahavir Sanctuary**.
- Mollem National Park is home to several temples from the **Kadamba Dynasty**.
- **Wildlife:** The park is home to many species of snakes, including the King Cobra, Hump-nosed pit viper, Indian rock python, and Malabar pit viper.

PRELIM FACTS

1. First Meeting of ANRF Governing Board

Prime Minister Narendra Modi chaired the first meeting of the Governing Board of the Anusandhan National Research Foundation (ANRF) in New Delhi recently. The meeting marked a significant step towards shaping India's research and development (R&D) landscape.

1. PM Modi highlighted the need for identifying and eliminating obstacles in India's research ecosystem. He emphasized the importance of setting ambitious goals and conducting path-breaking research to solve existing problems.

2. The board discussed launching a mentorship programme using a "hub and spoke" model. In this model, universities with nascent research capabilities will be paired with top-tier institutions to receive guidance and mentorship.

3. Strategic Focus Areas: The Governing Board deliberated on key strategic interventions, including:

- i) Enhancing India's global positioning in key sectors.
- ii) Aligning research and development (R&D) with national priorities.
- iii) Promoting inclusive growth and capacity building.
- iv) Advancing scientific research and fostering innovation ecosystems.
- v) Bridging the gap between academic research and industry through translational research.

About Anusandhan National Research Foundation (ANRF)

1. About: The Anusandhan National Research Foundation (ANRF) has been established under the Anusandhan National Research Foundation (ANRF) 2023 Act.

The Science and Engineering Research Board (SERB) established by an act of Parliament in 2008, has been subsumed into ANRF with its establishment.

2. Mission: ANRF's mission is;

- a. to seed, grow, and promote research and development (R&D), and
- b. to foster a culture of research and innovation across India's universities, colleges, research institutions, and R&D laboratories.

3. Aim: It aims to provide increased support to state universities and foster private sector participation in funding research and development (R&D).

4. Functions:

- i) ANRF will serve as an apex body, providing high-level strategic direction for scientific research in India, in line with the National Education Policy (NEP) recommendations.
- ii) ANRF will focus on forging collaborations among industry, academia, government departments, and research institutions.
- iii) It creates an interface mechanism for the participation and contribution of industries, State governments, and scientific and line ministries.

5. Funding Structure: ANRF seeks to establish a ₹50,000 crore corpus, with ₹36,000 crore expected to come from non-government sources. For the current financial year, ₹2,000 crore has been allocated to ANRF in the Union Budget.

2. Montelukast Medicine

The U.S. Food and Drug Administration (FDA) issued a 'black box warning' for montelukast. Similarly, the Medicines and Healthcare Products Regulatory Agency (MHRA) in the U.K. released a health alert indicating that the drug could lead to severe neuropsychiatric side effects. Greater regulation and awareness are needed to prevent misuse and mitigate adverse effects.

1. Montelukast belongs to a class of medications known as leukotriene receptor antagonists (LTRAs).
2. It functions by inhibiting the effects of substances in the body that trigger asthma symptoms and allergic rhinitis.
3. Montelukast is used to reduce inflammation and can help prevent asthma attacks in adults and children aged 2 years and older.
4. It also serves to prevent exercise-induced bronchoconstriction (a narrowing of the airways caused by exercise, also known as exercise-induced asthma) in individuals aged 6 years and older.

5. Mechanism of Action: Montelukast works by blocking leukotrienes, substances in the body that cause inflammation and swelling, thereby improving asthma symptoms.

6. Montelukast comes as a tablet, a chewable tablet, and granules to take by mouth.

7. Concerns with Montelukast:

i) Neuropsychiatric Effects: Can cause aggression, nightmares, depression, and cognitive impairment. Associated with suicide risk.

ii) FDA Warning: In 2020, the FDA added a 'black box warning' for serious neuropsychiatric adverse effects. Similar warnings issued by the UK's Medicines and Healthcare Products Regulatory Agency.

3. Air Quality Management Exchange Platform (AQMx)

The **Climate and Clean Air Coalition (CCAC)** has introduced the Air Quality Management Exchange Platform (AQMx) to support global efforts in improving air quality. This platform provides air quality managers with tools and guidance to meet WHO Air Quality Guidelines and interim targets.

Developed in response to a UNEA-6 resolution for increased global cooperation, AQMx will facilitate the sharing of best practices and data, ultimately supporting better policies and health outcomes worldwide.

About CCAC:

Founded in 2012 within UNEP, CCAC is a partnership of over 160 governments, NGOs, and organizations. India joined in 2019. It focuses on reducing short-lived climate pollutants like methane and black carbon.

WHO Air Quality Guidelines (AQG): These guidelines provide limit values for pollutants such as PM_{2.5}, O₃, NO₂, SO₂, and CO, recommending safe levels and interim targets. For example, the 24-hour mean for PM_{2.5} should not exceed 15 µg/m³, and the annual mean should not exceed 5 µg/m³. The guidelines have been significantly updated from 2005 to 2021.

4. Elongated Tortoise

A critically endangered elongated tortoise was spotted for the first time in Haryana's Damdama area in the Aravallis during a research survey.

This medium-sized tortoise, with a yellowish-brown or olive shell and black blotches, is typically found in Southeast Asia. It's unusual to find this species in the Aravallis, and its presence may be linked to trade. The tortoise is listed as critically endangered on the IUCN Red List due to severe population declines caused by human activities.

About Aravallis:

The Aravalli Range spans 692 km from Gujarat to Delhi, with a width of 10 to 120 km. It acts as a natural green wall, 80% in Rajasthan and 20% in Haryana, Delhi, and Gujarat. The range is divided into two main sections: the Sambhar Sirohi Range and the Sambhar Khetri Range in Rajasthan, extending about 560 km. It serves as an ecotone between the Thar Desert and the Gangetic Plain. Gurusikhar in Rajasthan is the highest peak, at 1,722 meters.

5. Typhoon Yagi (Vietnam)

Typhoon Yagi has **claimed 143 lives in northern Vietnam**, with 58 still missing. Typhoon Yagi is the **strongest to hit Vietnam in decades**, with winds reaching 149 kph.

Why Vietnam and the Philippines are affected by so many typhoons?

Vietnam and the Philippines are **frequently affected by typhoons due to their geographic location in the Western Pacific**, one of the most active typhoon basins in the world. Both countries lie along the **Pacific typhoon belt**, where warm ocean waters and atmospheric conditions favour the formation of strong tropical storms. Their **long coastlines and low-lying areas** also make them highly vulnerable to storm surges, flooding, and landslides triggered by typhoons. Additionally, the seasonal monsoons intensify these weather systems, especially during the peak typhoon season from June to November.

About Vietnam:

Vietnam is located in Southeast Asia, **covering 331,000 square kilometres with a population of over 100 million**. It shares borders with China, Laos, and Cambodia, and maritime borders with several countries in the South China Sea. Its capital is Hanoi, and its largest city is **Ho Chi Minh City**.

6. Financial Action Task Force (FATF)

The Financial Action Task Force (FATF) is expected to release its report on **India's mutual evaluation**, which was adopted at its **June 2024 plenary in Singapore, on September 19**.

About FATF

- FATF is an **intergovernmental organization** established in **1989 out of a G-7 meeting** of developed nations in **Paris**.
- **Secretariat:** Located at the **OECD headquarters in Paris**, it supports the substantive work of the Financial Action Task Force (FATF) membership and global network.
- **Evolution of Mandate:** Originally formed to **combat money laundering**, it expanded its mandate **after the 9/11 attacks** to include efforts against **terrorist financing**.
 - Later, efforts to counter the financing of **Weapons of Mass Destruction (WMD)** were added in **2012**.
 - Weapons of mass destruction (WMD) are weapons that can cause **massive destruction and loss of human life** on a large scale.
- **Grey and Black Lists**
 - **Grey List:** Includes countries considered safe havens for supporting **terror funding and money laundering**, serving as a warning.
 - **Black List:** Comprises **Non-Cooperative Countries or Territories (NCCTs)** supporting such activities.
- **Sessions and Decision-Making:** **Financial Action Task Force (FATF) Plenary** is the decision-making body, meeting **three times per year** to discuss **Mutual Evaluation Reports (MERs)** of countries.
- Countries with major deficiencies in their **Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT)** regimes are listed under "jurisdictions under increased monitoring" (**grey list**) or "**high-risk jurisdictions**" (**black list**).
- **Membership:** Currently, a **40-member body** representing major financial centres globally.
 - Includes **two regional organisations:** the European Commission and the Gulf Cooperation Council.
- **India's Association:** India joined as an **observer in 2006** and became a **full member in 2010**.
- Additionally, India is part of its **regional partners**, the **Asia Pacific Group (APG)** and the **Eurasian Group (EAG)**.
- **India's Status:** "**Regular follow-up**" category (includes France, Italy, Russia, and the UK)
- **Observers:** There are **31 international and regional organisations** which are Associate Members or Observers of the FATF and participate in its work.
 - Organisations with observer status include the **Asian Development Bank (ADB)**, **International Monetary Fund (IMF)**, **Interpol**, and the **World Bank**, among others.
- **Mutual Evaluation Report:**

- It is an assessment of a **country's measures to combat money laundering and the financing of terrorism** and proliferation of weapons of mass destruction.
- **Evaluation Team:** The reports are **peer reviews**, where members from different countries assess another country.
- **Without prejudice:** The mutual evaluation report is **without prejudice** to the status or justification that led to the designation of an entity as a terrorist or terrorist group or organisation.
- **Mutual Evaluations have two main components**
 - Effectiveness
 - Technical compliance.

ANSWER WRITING

Q. "The adoption of AI in military affairs presents both significant challenges and opportunities for India." In light of this statement, analyze how India can balance its national security imperatives with the global demand for responsible AI usage in defense.

The adoption of Artificial Intelligence (AI) in military affairs presents immense opportunities for enhancing national security, combat efficiency, and strategic decision-making. As global militaries integrate AI technologies, India is exploring the use of AI for surveillance, targeting precision, and autonomous systems. Balancing these advancements with the need for ethical AI deployment remains critical for responsible defence innovation.

Challenges for India in Adoption of AI in Military Affairs

- **Technological Infrastructure Limitations:** India's **AI infrastructure** is still developing, limiting its capability to fully harness AI in military applications.
For example: Limited AI research facilities compared to global powers like the **US** and **China** challenge India's ability to scale AI deployment in defence.
- **High Costs of AI Integration:** Integrating **AI systems** into existing military frameworks requires substantial investment, which can strain defence budgets.
For instance: Developing and deploying AI-powered **combat systems** like drones can be cost-prohibitive, limiting wide-scale adoption.
- **Cybersecurity Threats:** AI systems are vulnerable to cyberattacks, which can compromise national security.
For example: Indian defence establishments have reported an increase in cyberattacks targeting AI-enabled defence systems, raising concerns over **data security** and AI integrity.
- **Ethical and Legal Dilemmas:** The use of AI in **lethal weaponry** presents **ethical challenges**, including concerns about autonomous decision-making in warfare.
For instance: The debate over **lethal autonomous weapon systems (LAWS)** at **international forums** reflects the ethical dilemmas India faces in balancing AI advancements with responsible usage.
- **Lack of Skilled Workforce:** India faces a shortage of **skilled AI professionals** in defence technology, slowing AI adoption.
For instance: The **Indian Armed Forces** have initiated partnerships with **academic institutions** to develop AI expertise, but scaling these efforts remains a challenge.

Opportunities for India in Adoption of AI in Military Affairs

- **Enhanced Intelligence, Surveillance, and Reconnaissance (ISR):** AI can vastly improve **real-time data processing** for intelligence and surveillance, enabling accurate battlefield insights.
For example: The **Indian Army** has initiated the use of AI in ISR through **Project Sanjay**, which focuses on **integrating surveillance systems** to enhance situational awareness and operational efficiency.
- **Improved Targeting Accuracy:** AI can assist in refining targeting precision, minimising **collateral damage** and increasing combat efficiency.
For example: India's **DRDO** has developed AI-powered **autonomous drones**, improving **targeted strikes** and making operations more surgical, especially in high-stakes counter-insurgency operations.
- **AI-Driven Autonomous Systems:** AI-enabled autonomous drones and robotic systems can perform critical tasks like **border surveillance** and **mine clearance**, reducing human risk.
For example: India's development of AI-driven **Unmanned Aerial Vehicles (UAVs)** by **Hindustan Aeronautics Limited (HAL)** shows the nation's capacity to integrate autonomous systems into defence.
- **Faster Decision-Making:** AI algorithms can analyse vast amounts of data, enabling **faster decision-making in combat scenarios** and improving command response times.
For example: The **Indian Armed Forces** are working on **AI-powered command centres** that enable real-time battlefield analytics, improving operational responses.
- **Simulation and Scenario Planning:** AI can simulate battlefield scenarios, providing military leaders with **advanced predictive analytics** for strategy development.
For example: **AI-based simulations** used by the **Indian Navy** help in planning naval warfare scenarios, improving readiness and operational strategies.

Balancing National Security with Global Demand for Responsible AI Usage

- **Adhering to Global Norms on AI Usage:** India must align with global norms on responsible AI usage while advancing its defence capabilities.
For example: At the UN General Assembly, India supports discussions on the **ethical deployment of AI-powered lethal systems** to ensure balanced development.
- **Collaborating with Global Institutions:** Engaging with international bodies like REAIM helps India maintain its **national security imperatives** while contributing to the formulation of **global AI regulations**.
For example: India's participation in summits like **REAIM 2024** reflects its commitment to responsible AI while advancing its defence interests.
- **Ensuring Human Oversight in Autonomous Systems:** Maintaining **human oversight** in AI-driven autonomous weapon systems is crucial to avoid ethical violations.
For instance: India's **DRDO** ensures that AI-enabled drones and autonomous systems have **manual override options**, aligning with global calls for human-centric AI.
- **Developing AI with Transparency:** India must adopt **transparent AI development** practices to ensure ethical and accountable use in military applications.
For instance: The **Ministry of Defence (MoD)** emphasises transparency in AI-driven military programs, ensuring compliance with both **domestic and global regulations**.
- **Balancing AI and Human Rights Concerns:** As a responsible democracy, India needs to ensure that **AI in warfare** respects **international humanitarian law** and **human rights**.
For instance: India's draft policy on **AI in Defense**, developed by **NITI Aayog**, focuses on balancing technological advancement with global humanitarian norms.

Way Forward

- **Investing in AI Research and Development:** India must increase investments in **AI research and development** to strengthen its defence capabilities.
For example: Programs like **Make in India** can focus on **AI-driven military innovation** to boost indigenous capabilities.
- **Strengthening Cybersecurity Measures:** India must prioritise **cybersecurity** to protect AI-enabled systems from external threats.
For example: The **National Cyber Security Policy 2020** can integrate **AI defence protocols** to safeguard military assets from cyberattacks.
- **Building Public-Private Partnerships:** Collaborating with private companies in the **AI sector** can accelerate innovation and deployment in defence.
For example: The **Indian Armed Forces** have partnered with **startups** to develop AI-based **surveillance and combat technologies**.
- **Enhancing Training and Skill Development:** Expanding AI training programs within the **defence sector** is crucial for workforce readiness.
For instance: Initiatives by **DRDO** and **NITI Aayog** are focused on training military personnel in AI and machine learning technologies.
- **Promoting International Collaboration:** India must engage in **international collaborations** to ensure ethical AI deployment in defence.

The adoption of AI in military affairs presents both challenges and opportunities for India's defense. By advancing AI innovations, while adhering to global ethical norms, India can enhance its national security. The future demands strategic investments in R&D, cybersecurity, and international collaborations to ensure AI is used responsibly in shaping the nation's military capabilities for the 21st century.

MCQ

1. How does the reduction of sea ice in the Central Arctic influence the Indian monsoon patterns?
 - a) Increases rainfall in western India and reduces it in northern India
 - b) Reduces Rossby waves and weakens the Indian monsoon
 - c) **Shifts the Asian jet stream, increasing rainfall in northern and central India**
 - d) Causes high-pressure systems over southern India, leading to droughts
2. What is the primary purpose of the Air Quality Management Exchange Platform (AQMx), introduced by the CCAC?
 - a) To monitor climate change
 - b) To track greenhouse gas emissions
 - c) To provide real-time air quality data to the public
 - d) **To facilitate global cooperation for improving air quality**
3. Which of the following pollutants is regulated by the WHO Air Quality Guidelines (AQG)?
 - a) **Ozone (O3)**
 - b) Methane (CH4)
 - c) Carbon dioxide (CO2)
 - d) Water vapor (H2O)
4. Consider the following statements about the Parliamentary Committee on Official Language (PCOL):

1. The Committee was established under the Official Languages Act, 1963.
 2. The Committee consists of 30 members, with 20 from the Rajya Sabha and 10 from the Lok Sabha.
 3. One of the functions of the Committee is to review the progress of the adoption of Hindi for official purposes.
- Which of the statements given above is/are incorrect?
- a) 1 and 2 only
 - b) 1, and 3 only
 - c) 2 and 3 only
 - d) 2 only**
5. Consider the following statements about the factors contributing to typhoon formation in Vietnam and the Philippines:
 1. Warm ocean waters in the Western Pacific fuel the formation of typhoons.
 2. Monsoonal winds often intensify typhoons, especially during the peak season.
 3. The Philippines and Vietnam's geographic position shields them from the worst effects of typhoons.

Which of the statements given above is/are correct?

 - a) 1 only
 - b) 1, 2, and 3
 - c) 2 and 3 only
 - d) 1 and 2 only**
 6. Consider the following statements regarding the Ayushman Bharat Pradhan Mantri Jan Aarogya Yojana (AB-PMJAY):
 1. AB-PMJAY is a Centrally Sponsored Scheme under the Ministry of Health and Family Welfare (MoHFW).
 2. ₹5 lakh free health insurance on a family basis for all citizens aged below 60.
 3. Only government hospitals are empanelled under AB-PMJAY for beneficiaries to avail cashless services.

Which of the statements given above is/are correct?

 - a) 1 only**
 - b) 2 and 3 only
 - c) 3 only
 - d) 1, 2, and 3
 7. Consider the following statements regarding the PM E-Drive Scheme:
 1. The scheme replaces the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME) programme.
 2. The PM E-DRIVE scheme aims to promote EVs to reduce the environmental impact of transportation and improve air quality.
 3. The Ministry of Road Transport and Highways will implement the scheme over a period of two years.

Which of the statements given above is/are correct?

 - a) 1 and 2 only**
 - b) 2 and 3 only
 - c) 1 and 3 only
 - d) 1, 2, and 3
 8. With reference to the Anusandhan National Research Foundation (ANRF), consider the following statements:
 1. It is designed as a funding body to stimulate science and engineering research in India.
 2. ANRF intend to address the current gaps in the Indian research landscape by offering grants and scholarships to school-level students.
 3. The Prime Minister of India chairs the Governing Board of the ANRF.

Which of the statement(s) given above is/are correct?

 - a) 1 only
 - b) 2 only
 - c) 1 and 2 only
 - d) 1 and 3 only**
 9. Consider the following statements regarding the elongated tortoise:
 1. The elongated tortoise is typically found in Southeast Asia and is rarely found in India.
 2. The species is listed as critically endangered due to illegal wildlife trade and habitat destruction.
 3. The elongated tortoise was recently spotted in Haryana's Sultanpur National Park.

How many of the above statements is/are correct?

 - a) Only one
 - b) Only two**
 - c) All three
 - d) None
 10. Consider the following statements regarding the Financial Action Task Force (FATF):
 1. It is an international body established to combat money laundering, terrorist financing, and other related threats to the integrity of the international financial system.
 2. It also provides recommendations for improving global economic growth, reducing global poverty, and guidelines for central bank monetary policies.
 3. India's positive outcomes in the FATF review enhance its attractiveness as an investment destination.

Which of the statement(s) given above is/are correct?

 - a) 1 only
 - b) 1 and 2 only
 - c) 1 and 3 only**
 - d) 1, 2 and 3