



## **Mohiniyattam**

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# Mohiniyattam (Kerala)

- Also known as the dance of Mohini (an incarnation of Lord Vishnu).
- Performed by women.
- Thumping of footsteps is absent.
- Footwork is gentle.
- Narrates the story of the feminine dance of Vishnu.

## Performanee

Mostly a solo performance      The Lasya aspect (beauty, grace) of dance is dominant      Inculcates elements of Bharatanatyam (grace & elegance) and Kathakali (vigor)      The famous Malayali poet V. N. Menon revived it along with Kalyani Amma

## Referenes of Mohiniyattam:

- Vyavaharamala written in 1709 by Mazhamagalam Narayanan Namboodiri.
- Ghoshayatra, written later by poet Kunjan Nambiar.

## Instruments

Edakka (Main)      Mridangam      Veena      Flute      Kuzhitalam or Cymbals

## Costumes

- Kasavu saree of Kerala.
- White and off-white being the principal colors and the presence of gold colored brocade designs.
- Leather strap with bells (Ghungroo).

–‘Atavakul or Atavus’ is the collection of forty basic dance movements.



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## Quarterly Employment Survey (QES)

**For Prelims:** All-India Quarterly Establishment-based Employment Survey (AQEES), Quarterly Employment Survey, Periodic Labour Force Survey (PLFS), International Labour Organization's

**For Mains:** Government's surveys and methods to obtain employment data

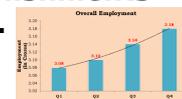
### Why in News?

Recently, the **Fourth Round (January-March, 2022)** of [Quarterly Employment Survey \(QES\)](#), part of **All India Quarterly Establishment based Employment Survey (AQEES)**, was released by the **Labour Bureau**, Ministry of Labour and Employment.

### What are the Key Findings of QES 2022?

#### Overall Employment:

- An estimated total of **3.18 crore workers** were engaged in **5.31 lakh establishments** during the 4th round, compared to a total of **3.14 crores in the 3<sup>rd</sup> quarter**.



#### Sector Wise Figures:

- Manufacturing sector:** 38.5%
- Education:** 21.7%
- Information Technology /Business Process Outsourcing (BPO):** 12%
- Health sector:** 10.6%

#### Size of the Organisations:

- In terms of **number of workers**, an estimated 80% of the establishments engaged 10 to 99 workers.
  - The figure increases to 88% if **establishments with 10 or more workers are considered**.
  - About 12% of the establishments reported less than 10 workers.
- Only **1.4% of the establishments reported at least 500 workers**.
  - Such large establishments were mostly in the IT/ BPO sector and in the health sector.

#### Female Participation:

- Female workers participation reported a marginal increase from **31.6% in the 3<sup>rd</sup> quarter to 31.8% in the 4<sup>th</sup> quarter report**.
- Sector Wise Participation:**
  - Health:** 52%
  - Education:** 44%
  - Financial Services:** 41%
  - IT/BPO:** 36%
- It is noteworthy that in Financial Services, females far outnumber males among self-employed persons.

## What is the AQEES?

- The AQEES has been taken up by the **Labour Bureau** to provide **frequent (quarterly) updates about the employment and related variables** of establishments, in both **organised and unorganised segments** of nine selected sectors.
- There are two components under AQEES:
  - **Quarterly Employment Survey (QES)**: It provides the employment estimates for the establishments employing 10 or more workers in the organised segment in 9 sectors.
    - **The 9 sectors are** Manufacturing, Construction, Trade, Transport, Education, Health, Accommodation and Restaurants, IT/BPO, Financial Service Activities.
  - **Area Frame Establishment Survey (AFES)**: It covers the unorganised segment (with less than 10 workers) through a sample survey.

## What is the Difference between QES & Periodic Labour Force Survey (PLFS)?

- While the **QES provides a demand-side picture**, the **National Sample Survey or Periodic Labour Force Survey (PLFS)** gives the **supply side picture** of the labour market.
- Also, PLFS is conducted by the **National Statistical Organization (NSO)**, MoSPI (Ministry of Statistics and Programme Implementation).

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

**Q. Which of the following brings out the 'Consumer Price Index Number for Industrial Workers'? (2015)**

- (a) The Reserve Bank of India
- (b) The Department of Economic Affairs
- (c) The Labour Bureau
- (d) The Department of Personnel and Training

**Ans: (c)**

**Exp:**

- Consumer Price Index Numbers for Industrial Workers (CPI-IW) is an index designed to measure a change, over time, in prices of a given basket of goods and services consumed by a defined population (i.e. Industrial Workers).
- CPI-IW is compiled by Labour Bureau, an attached office under the Ministry of Labour and Employment.
- The current series of CPI-IW (base 2016 = 100) is compiled for 88 selected centres in the country. The All-India Consumer Price Index for Industrial Workers is the weighted average of these 88 centre indices.
- These centres have been selected on the basis of industrial importance in the country in the first instance and then distributed among different states in proportion to the industrial employment in the state subject to maximum allotment of 5 centres in a state to a sector.
- **Therefore, option (c) is the correct answer.**

**Source: PIB**

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# JALDOOT App

**For Prelims:** JALDOOT App, Ground Water Depletion, Initiatives related to Water Depletion.

**For Mains:** JALDOOT App, Issues of Groundwater depletion and Solution.

## Why in News?

Recently, the Ministry of Rural Development has launched the “JALDOOT App and JALDOOT App e-brochure” to capture the **Ground water level in a better way.**

## What is a JALDOOT App?

### ▪ About:

- JALDOOT app has been jointly developed by the Ministry of Rural Development and [Panchayati Raj](#).
- This app will be used across the country to capture the water level of **selected 2-3 wells in a village.**
- The app will work **in both online and offline mode.** So, water level can be captured even **without internet connectivity and captured data will be stored in mobile** and when mobile comes in the connectivity area, data will synchronize with the central server.
- The regular data to be input by the Jaldots would be integrated with the database of **National Water Informatics Centre (NWIC)**, which can be utilized for analysis and display of various useful reports for the benefit of various stakeholders.

### ▪ Significance:

- This app will facilitate **observing water tables across the country** and the resulting **data can be utilized for Gram Panchayat Development Plan** and [Mahatma Gandhi NREGA](#) Plans.
- The app is launched to capture the water level of selected wells in a village across the country.
- JALDOOT app will allow **Gram Rojgar Sahyak to measure** the water level of the well twice a year pre-monsoon and post-monsoon.
- The app will **ease panchayats with robust information that** can be later used for better planning of works.

## What is the Status of Groundwater Depletion in India?

### ▪ Status of Groundwater Depletion:

- According to the [Central Ground Water Board \(CGWB\)](#), with 230 billion metre cubes of groundwater drawn out each year for irrigating agriculture lands in India, **many parts of the country are experiencing rapid depletion of groundwater.**
- The total estimated groundwater depletion in India is **in the range of 122-199-billion-meter cubes.**
- 89% of groundwater extracted is **used in the irrigation sector**, making it the highest category user in the country.
  - This is followed by groundwater for domestic use which is 9% of the extracted groundwater. Industrial use of groundwater is 2%. 50% of urban water requirements and 85% of rural domestic water requirements are also fulfilled by ground water.

### ▪ Causes:

#### ◦ Green Revolution:

- The Green Revolution **enabled water-intensive crops to be grown in drought-prone/ water deficit regions**, leading to over extraction of groundwater.

- Frequent pumping of water from the ground without waiting for its replenishment leads to quick depletion.
- Further, Subsidies on electricity and high **MSP (Minimum Support Price)** for water intensive crops.
- **Industries Requirement:**
  - Water contamination as in the case of pollution by landfills, septic tanks, leaky underground gas tanks, and from overuse of fertilizers and pesticides **leads to damage and depletion of groundwater resources.**
- **Inadequate Regulation:**
  - Inadequate regulation of groundwater **encourages the exhaustion of groundwater resources** without any penalty.
- **Federal Issue:**
  - Water being a **state subject**, initiatives on water management including water conservation and water harvesting and making available adequate drinkable water to citizens in the **Country is primarily the States' responsibility.**

## What are the Related Initiatives?

- [Atal Bhujal Yojana \(Atal Jal\)](#)
- [Jal Shakti Abhiyan \(JSA\)](#)
- [Aquifer Mapping and Management Programme](#)
- [Atal Mission for Rejuvenation and Urban Transformation \(AMRUT\)](#)
- [Pradhan Mantri Krishi Sinchayee Yojana - Watershed Development Component](#)
- [Mission Kakatiya' in Telangana](#)

## Way Forward

- **Artificial Recharge of Groundwater:** It is the process of spreading or impounding water on the land to increase the infiltration through the soil and percolation to the aquifer or of injecting water by wells directly into the aquifer.
- **Groundwater Management Plants:** Installing groundwater management plants at local levels will help the people know the groundwater availability in their area, making them use it wisely.

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### Prelims

#### Q. Consider the following statements: (2020)

1. 36% of India's districts are classified as "overexploited" or "critical" by the Central Ground Water Authority (CGWA).
2. CGWA was formed under the Environment (Protection) Act.
3. India has the largest area under groundwater irrigation in the world.

Which of the statements given above is/are correct.

- (a) 1 only
- (b) 2 and 3 only
- (c) 2 only
- (d) 1 and 3 only

Ans: (b)

Exp:

- Based on groundwater levels, areas across the country are split into three categories: **Over-**

**exploited, Critical, and Semi-critical.** The first refers to groundwater being extracted more than what's recharged i.e., extraction is more than 100%. Critical where the groundwater taken out is 90-100% of what's recharged and semi-critical where extraction rate is 70%-90%.

- As per the report 'National Compilation on Dynamic Groundwater Resources of India, 2017' of CGWA, out of the total 6881 assessment units (Blocks/ Mandals/Talukas) in the country, 1186 units in various States (17%) have been categorized as 'Over- Exploited', 313 units (5%) are 'Critical', and 972 are semi-critical units (14%). **Hence, statement 1 is not correct.**
- Note: As per National Compilation on Dynamic Groundwater Resources of India 2020; Out of the total 6965 assessment units (Blocks/ Mandals/ Talukas/ Firkas) in the country, 16 % have been categorized as 'Over-exploited, 4 % as Critical, 15 % as Semi-critical and 64 %) as 'Safe' units. Apart from these, there are 97 (1%) assessment units, which have been categorised as 'Saline'.
- The Central Ground Water Authority (CGWA) was constituted under Section 3(3) of the Environment (Protection) Act, 1986 to regulate, control development and management of ground water resources. **Hence, statement 2 is correct.**
- As per report of Food and Agriculture Organization (FAO) of UN, the countries with the largest extent of areas equipped for irrigation with groundwater, in absolute terms, are India (39 million ha), China (19 million ha) and the USA (17 million ha). **Hence, statement 3 is correct.**
- **Therefore, option (b) is the correct answer.**

## **Mains**

**Q.** "The ideal solution of depleting ground water resources in India is water harvesting system". How can it be made effective in urban areas? **(2018)**

**Q.** India is well endowed with fresh water resources. Critically examine why it still suffers from water scarcity. **(2015)**

**Source: PIB**

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## **Just War Theory**

**For Mains:** Just War Theory and Related issues

### **What is Just War Theory?**

- **Origin:**
  - The principles of a Just War **originated with classical Greek and Roman philosophers** like Plato and Cicero and were added to by Christian theologians like Augustine and Thomas Aquinas.
- **About:**
  - The just war theory is a largely **Christian philosophy that attempts to reconcile three things:**
    - taking human life is seriously wrong
    - states have a duty to defend their citizens, and defend justice
    - protecting innocent human life and defending important moral values sometimes requires willingness to use force and violence
  - The **theory specifies conditions for judging if it is just to go to war**, and conditions

- for how the war should be fought.
- Although it was extensively developed by Christian theologians, it can be used by people of every faith and none.
- According to the Just War theory, **war perhaps at times is morally right**. No war, however, is praiseworthy for being strategic, prudent, or bold. Occasionally, war represents an ethically appropriate use of mass political violence.
  - World War II, on the Allied side, is often cited as the definitive example of a just and good war.

## What are the Elements of Just War Theory?

- Just war theory is divided into three parts that have Latin names. These parts are:
  - **Jus Ad Bellum:** About the justice of resorting to war in the first place.
  - **Jus in Bello:** It is about justice of conduct within war.
  - **Jus Post Bellum:** This is about the justice of peace agreements and the termination phase of the war.

## What is the Purpose of Just War Theory?

- The aim is to **provide a guide to the right way for states to act in potential conflict situations**.
  - It **only applies to states, and not to individuals** (although an individual can use the theory to help them decide whether it is morally right to take part in a particular war).
- The theory **provides a useful framework for individuals** and political groups to use for their discussions of possible wars.
- The theory is **not intended to justify wars but to prevent them**, by showing that going to war except in certain limited circumstances is wrong and thus motivates states to find other ways of resolving conflicts.

## What are the Arguments against Just War Theory?

- **No Place in Ethical Theory:**
  - All war is unjust and has no place in any ethical theory:
    - Morality must always oppose deliberate violence.
    - Rather than limiting violence, just war ideas encourage it.
- **Disrupts Normal Rules of Society:**
  - As a result of war, the **normal rules of society are disrupted and morality goes out the window**.
- **Unrealistic Theory:**
  - The just war theory is unrealistic and pointless
    - In a conflict "the strong do what they will, and the weak do what they must".
    - The decision to wage war is governed by realism and relative strength, not ethics.
    - Morality thus has no use in war.

## Way Forward

- The overriding aim of war **should be to achieve victory as quickly and cheaply as possible**.
  - If the cause is just, then no restrictions should be placed on achieving it.
  - The rules of conduct of war are mere camouflage because they are always over-ruled by 'military necessity'.
- Terrorists are inherently uninterested in morality, so following any ethical theory of war handicaps those whom terrorists attack - thus a different approach is needed.

[Source: BBC](#)

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# Dibang Hydel Project

**For Prelims:** Dibang Hydel Project, Forest Advisory committee

**For Mains:** Growth and development over environment, NGT

## Why in News?

Recently, the [National Green Tribunal \(NGT\)](#) has dismissed the case **it took up suo motu on the grant of forest clearance** for the 3000-MW Dibang hydel project without meeting the precondition of declaring a National Park.

- The Tribunal did so after it was informed by Arunachal Pradesh that the local people are not willing to part away their land for declaration of National Park.

## What are the Key Points of Dibang Hydro Power Project?

- It is a flood control cum **hydroelectric power project** planned to be developed on the Dibang River, a **tributary of Brahmaputra River**, in Arunachal Pradesh.
- The Dam site is located about 1.5 km upstream of the confluence of **Ashu Pani and Dibang rivers** and about 43 km from Roing, District Headquarter.
- The project would moderate flooding in the areas downstream of the Dibang Dam during the entire monsoon period to the extent of 3000 cumecs.
- It will be developed with an estimated investment of USD 4 billion.
- The Dibang hydropower project is expected to generate up to 11,222 million units (MU) of electricity a year.



## What is the National Green Tribunal (NGT)?

- It is a specialized body set up under the **National Green Tribunal Act (2010)** for effective and

expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources.

- With the establishment of the NGT, India became the **third country in the world** to set up a specialised environmental tribunal, only **after Australia and New Zealand**, and the first developing country to do so.
- NGT is mandated to make disposal of applications or appeals finally within 6 months of filing of the same.
- The NGT has five places of sitting, New Delhi is the principal place of sitting and Bhopal, Pune, Kolkata and Chennai are the other four.

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### Prelims

**Q. Which of the following is/are tributary/tributaries of Brahmaputra? (2016)**

1. Dibang
2. Kameng
3. Lohit

**Select the correct answer using the code given below:**

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

**Ans: (d)**

**Exp:**

- Brahmaputra basin spreads over the countries of Tibet (China), Bhutan, India and Bangladesh. In India, it spreads over the states of Arunachal Pradesh, Assam, West Bengal, Meghalaya, Nagaland and Sikkim.
- The Brahmaputra River originates in the north from Kailash ranges of the Himalayas at an elevation of 5,150 m just south of the lake Konggyu Tsho and flows for about a total length of 2,900 km. It enters India at Namcha Barwa (Arunachal Pradesh) and flows for 916 km.
- The principal tributaries of the river joining from the right are Kameng, Subansiri, Manas, Sankosh and Teesta whereas Lohit, **Dibang**, Burhidihing, Desang, Dikhow, Dhansiri join it from the left.  
**Hence, 1, 2 and 3 are correct.**
- **Therefore, option (d) is the correct answer.**

### Mains

**Q1.** What do you understand by Run-of-river hydroelectricity project? How is it different from any other hydroelectricity project? **(2013)**

**Q2.** Suppose the Government of India is thinking of constructing a dam in a mountain valley bound by forests and inhabited by ethnic communities. What rational policy should it resort to in dealing with unforeseen contingencies? **(2018)**

**Source: IE**

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# World Rabies Day

## Why in News?

**World Rabies Day** is observed every year on **28<sup>th</sup> September** to raise awareness about the **world's deadliest infectious disease** and **bring together partners** to enhance prevention and control efforts worldwide.

- 2022 marks the **16<sup>th</sup> World Rabies Day**.

## What do we need to know about World Rabies Day?

### ▪ About:

- 28<sup>th</sup> September marks the anniversary of **Louis Pasteur's** death, the French chemist and microbiologist, **who developed the first rabies vaccine**.
- In 2007, the **first World Rabies Day (WRD)** was organised by the two founding partners namely:
  - **Alliance for Rabies Control (ARC)**
  - **Centre for Disease Control and Prevention, Atlanta (CDC)**

### ▪ Theme 2022:



- The theme of World Rabies Day 2022 is: **“One Health, Zero Death”**.
- The theme will highlight the connection of the environment with both people and animals.

## What do we know about Rabies?

### ▪ About:

- Rabies is a vaccine-preventable, zoonotic, viral disease.
- It is caused by a **Ribonucleic Acid (RNA)** virus that is **present in the saliva** of a rabid animal (dog, cat, monkey, etc).
- It is **invariably transmitted** following a **bite of an infected animal** that leads to **deposition of the saliva and the virus in the wound**.
- Once clinical symptoms appear, rabies is virtually 100% fatal. The death invariably **occurs in four days to two weeks** due to **cardio-respiratory failure**.
  - In up to 99% of cases, domestic dogs are responsible for rabies virus transmission to humans.
- The incubation period varies from 2–3 months but may vary from 1 week to 1 year, or rarely even more.

### ▪ Treatment:

- It is **important to remove the virus from the wound** as early as possible by **immediately washing the wound with water and soap** followed by application of **antiseptics that reduce/eliminate chances of nerve infection**.
- Rabies can be prevented by **vaccinating pets, staying away from wildlife**, and **seeking medical care** after potential exposures before symptoms start.

### ▪ Symptoms:

- The **first symptoms of rabies may be similar to flu** and may last for a few days, which includes:
  - Fever, Headache, Nausea, Vomiting, Anxiety, Confusion, Hyperactivity, Difficulty swallowing, Excessive salivation, Hallucinations, Insomnia.

- **India's Initiatives for Cure Against Rabies:**

- **National Action Plan for Dog Mediated Rabies Elimination by 2030:**

- It is a multi-pronged strategy based on [One Health Approach](#).
    - The concept of One Health recognizes that the health of people is **closely related** with the health of animals, plants and their shared environment.
      - In One Health approach, **multiple sectors communicate and work together** at the local, regional, national, and global levels with the goal of achieving optimal health outcomes.
    - **Mission:** To **achieve zero human deaths** due to dog-mediated Rabies by 2030.
    - **Principles:**
      - **Prevention:** Introduce **cost-effective public health intervention techniques** to improve accessibility, affordability, and availability of post-exposure prophylaxis to all people in need.
      - **Promotion:** Improve **understanding of rabies** through advocacy, awareness, education and operational research.
      - **Partnership:** Provide **coordinated support for the anti-rabies drive** with the involvement of community, urban and rural civil society, government, private sectors and international partners.

[Source: TOI](#)

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## World Tourism Day

### Why in News?

World Tourism Day is celebrated yearly on **27<sup>th</sup> September** around the world, and this year it will be held in Bali, Indonesia.

- **Theme 2022:** Rethinking Tourism.

### What are the Key Points?

- **About:**

- 27<sup>th</sup> September has been celebrated as World Tourism Day since 1980. This date was chosen to coincide with an important milestone in world tourism: the anniversary of the adoption of the **United Nations World Tourism Organization (UNWTO) Statutes** in 1970.
    - The UNWTO is the [United Nations](#) specialised agency responsible for the promotion of responsible, sustainable and universally accessible tourism.

- **Objectives:**

- The purpose of this day is to increase awareness and motivate people to travel. Since it believes that tourism helps people all across the world become even more unified and connected

- **Significance:**

- The World Tourism Day highlights the **unique role of the tourism sector in preserving cultural and natural heritage** all around the world. It acts as an auxiliary in safeguarding habitat and endangered species.
  - It addresses the **importance of the tourism sector in providing jobs** and opportunities, mostly for women and youth, in rural as well as big cities.

### What is the Scenario of Tourism in India?

- **About:**

- India attracted a lot of travellers in the past due to its fabled wealth. **Visit of [Hieun-tsang](#)**, a devout Chinese Buddhist is an example of this.
- Pilgrim Travel got a boost when **Emperors like Ashoka and Harsha started** building rest houses for pilgrims.
- Arthashastra' pointing out the importance of the travel infrastructure for the state, which played an important role in the past.
- Post-Independence, Tourism continuously remained part of the **[Five Year Plans \(FYP\)](#)**.
  - Different forms of Tourism like Business Tourism, Health Tourism, and Wildlife Tourism etc. were introduced in India after seventh FYP.
- **Status:**
  - India's tourism sector ranked 6<sup>th</sup> in its contribution to World **Gross Domestic Production (GDP)** contributing USD 178.0 billion in World Travel and Tourism Council's report in 2021.
  - In terms of foreign exchange, India's tourism sector earned USD 6.96 billion in 2020. This is expected to increase further after the pandemic.
  - **In FY20**, the tourism sector in **India accounted for 39 million jobs**, which was 8.0% of the total employment in the country. **By 2029**, it is expected to account for about 53 million jobs.
  - India has 40 sites listed under '**[World Heritage List](#)**', 6<sup>th</sup> highest (32 cultural, 7 natural, and 1 mixed site) in the world.
    - **[Dholavira](#) and [Ramappa Temple \(Telangana\)](#)** are the latest ones.

## What are the Initiatives Related to Tourism?

- **[Swadesh Darshan Scheme](#)**
- **[National Mission on Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive](#)**
- **[Iconic Tourist Sites](#)**
- **[Buddhist Conclave](#)**
- **[Dekho Apna Desh Initiative](#)**

**[Source: HT](#)**

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## Very Short-Range Air Defence System (VSHORADS)

### Why in News?

Recently, **[Defence Research and Development Organisation \(DRDO\)](#)** conducted **two successful test flight of Very Short Range Air Defence System (VSHORADS) missile** from a ground based portable launcher at the **Integrated Test Range, Chandipur, off the coast of Odisha**.

- Both the flight tests have **completely met the mission objectives**.

### What is VSHORADS?

- **About:**
  - Very Short-Range Air Defence System (VSHORADS) is a **[Man Portable Air Defence System \(MANPAD\)](#)** designed and developed indigenously by DRDO's Research Centre Imarat (RCI), Hyderabad in collaboration with other DRDO laboratories and Indian Industry Partners.

- **Design:**
  - VSHORADS missile incorporates many novel technologies including **miniaturized Reaction Control System (RCS)** and **integrated avionics**, which have been successfully proven during the tests.
  - The missile, meant for **neutralizing low-altitude aerial threats at short ranges**, is propelled by a **dual thrust solid motor**.
  - The design of the missile including launcher has been **highly optimized to ensure easy portability**.
- **Significance:**
  - This new missile equipped with modern technologies will give **further technological boost to the [Armed Forces](#)**.

## What is a Reaction Control System?

- A Reaction Control System (RCS) is responsible for **attitude control** and steering by the **use of thrusters**.
- The RCS system is capable of **providing small amounts of thrust in any desired direction** or combination of directions.
- An RCS is also capable of **providing torque to allow control of rotation (pitch, yaw, and roll)**.

## What are MANPADS?

- MANPADS are **short-range, lightweight and portable surface-to-air missiles** that can be fired by individuals or small groups to destroy aircraft or helicopters.
- They help **shield troops from aerial attacks** and are most effective in targeting low-flying aircraft.
- MANPATs or Man-Portable Anti-Tank Systems work in a similar manner but are used to destroy or incapacitate military tanks.
- MANPADS have a maximum range of 8 kilometers and can engage targets at altitudes of 4.5 km.
- The first MANPADS were introduced by the United States and Soviet Union in the 1960s.

## UPSC Civil Services Examination, Previous Year Question (PYQ)

**Q. What is “Terminal High Altitude Area Defense (THAAD)”, sometimes seen in the news? (2018)**

- (a) An Israeli radar system
- (b) India’s indigenous anti-missile programme
- (c) An American anti-missile system
- (d) A defence collaboration between Japan and South Korea

**Ans: (c)**

**Exp:**

- Terminal High Altitude Area Defence (THAAD) is an American anti-missile system designed to intercept and destroy short and medium-range ballistic missiles during their “terminal” phase of flight when they are falling towards the target.
- They have the ability to intercept missiles inside and outside the atmosphere.
- It is interoperable with other ballistic missile defence systems and is highly mobile and deployable worldwide.
- **Therefore, option C is the correct answer.**

**Source: PIB**

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## Combined Maritime Forces (CMF)

### Why in News?

Recently, **INS Sunayna** arrived in Port Victoria, [Seychelles](#) to participate in the annual training exercise **Operation Southern Readiness of Combined Maritime Forces (CMF)**.

- This not only reinforces the **Indian Navy's commitment to maritime security in the Indian Ocean Region** but also marks the maiden participation of an Indian Navy ship in the CMF exercise.



### What do we know about Combined Maritime Forces (CMF)?

- **About:**
  - It is a **multinational maritime partnership**, which exists to **uphold the Rules-Based International Order (RBIO)** by countering illicit non-state actors on the high seas and promoting security, stability, and prosperity across approximately 3.2 million square miles of international waters, which encompass some of the world's most important shipping lanes.
  - **CMF is Commanded by a U.S. Navy Vice Admiral.**



▪ **Members:**

- **CMF has 34 member nations:** Australia, Bahrain, Belgium, Brazil, Canada, Denmark, Egypt, France, Germany, Greece, Iraq, Italy, Japan, Jordan, Republic of Korea, Kuwait, Malaysia, the Netherlands, New Zealand, Norway, Pakistan, the Philippines, Portugal, Qatar, Saudi Arabia, Seychelles, Singapore, Spain, Thailand, Turkey, UAE, United Kingdom, United States, and Yemen.
  - India is not a member of CMF. At the [India-US 2+2 dialogue held in April \(2022\)](#), India had announced that it would **join the CMF as an Associate Partner**.

▪ **Focus Area:**

- CMF's main focus areas are **counter-narcotics, counter-smuggling, suppressing piracy, encouraging regional cooperation**, engaging with regional and other partners to strengthen relevant capabilities in order to improve overall security and stability.
- When requested, CMF assets at sea will also respond to environmental and humanitarian incidents.

**Source: PIB**

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