



29-03-2022

Military version of MRSAM**Why in Newspapers?**

Recently the Defence Research and Development Organization (DRDO) conducted two successful flight tests of the military version of the Medium Range Surface-to-Air Missile (MRSAM) at the Integrated Test Range, Chandipur, off the coast of Odisha.

Quick Issue?

- These tests were part of live firing trials against high speed air targets.
- The first launch was to intercept a medium-altitude long-range target and the second was to provide capability to a low-range short-range target
- The first test of the Medium Range Surface-to-Air Missile (MRSAM) for the Indian Army was conducted in the year 2020.
- It is a surface-to-air missile system jointly developed by the Defence Research and Development Organization (DRDO) and Israel Aerospace Industries (IAI) for use by the Indian Army.
- It consists of a command and control post, multi-function radar and mobile launcher system.

Historical Background?

- It is a fast-reaction supersonic missile, which has been developed to neutralize enemy air threats, such as missiles, aircraft, guided bombs and fighter aircraft, etc.
- The speed of supersonic missiles is greater than the speed of sound (Mach-1), but they cannot be faster than Mach-3.
- Its different versions have been developed for the Army, Navy and Air Force.

OTHER IMPORTANT FACTS?**Supersonic Speed**

- Supersonic speed is the rate of travel that exceeds the speed of sound, also known as (Mach-1) speed. Since the speed of sound depends on the temperature and composition of the air, supersonic speed also varies with varying altitudes. In water at room temperature, it is greater than 1440 m/s, while in solids it is even higher. An example of supersonic fired from a gun. Fighter planes and space shuttles also fly at the same speed. The Concorde is the only passenger aircraft to travel at such a speed. It made its last flight in 2003 and is no longer in use. The term sonic boom is associated with these speeds. When an aircraft takes off at this speed, a person on the ground hears a very loud sound, which is called a sonic boom. The sonic boom is produced as a result of the movement of air molecules under a tremendous force.



- In May 2019, the Indian Navy, DRDO and IAI conducted the first test-fire of the naval version of the 'Medium Range Surface to Air Missile' (MRSAM).
- It is a land-based version of the Barak Air and Missile Defence System (AMD).
- Barak AMD has been purchased by India from Israel.
- It was designed and developed by Israel to protect its economic sectors and strategic institutions from various threats.
- The missile's management system calculates the distance using radar to track and accurately identify the target and provides all the information to the commander for interception decisions.
- This missile is 45 meters long and weighs about 275 kg.
- It is equipped with fins and canards to stabilize its flight and give it manoeuvrability.
- This missile is operated by 'Thrust Vector Control System' with a solid propulsion system.
- It can hit multiple targets simultaneously up to a range of 70 km.

Likely Question Asked in Preliminary Exam

Question: Consider the following statements:

1. The first test of the Medium Range Surface-to-Air Missile (MRSAM) for the Indian Army was done in the year 2020.
2. The first launch was to intercept a medium altitude long range target and the second launch was to provide capability to a low range short range target.
3. The speed of supersonic missiles is greater than the speed of sound (Mach-1), but they cannot be faster than Mach-3.

CODE :

- (A) 01 and 02 (B) 02 and 03
(C) 01 and 03 (D) All of the above

Answer - (D) All of the above

Possible Questions to be Asked in Mains Exam

Question-1 - Describe in detail the military version of MRSAM -

Question-2 - What is a supersonic missile, explain -



Bucharest Nine

Why in Newspapers?

India's envoys to nine Eastern European countries, called the Bucharest Nine, jointly wrote to the Indian public to acquaint the Indian public with the basic facts about the 'premeditated, unprovoked and unjustified Russian invasion of Ukraine'.

Quick Issue?

- All members of the B-9 are part of the European Union (EU) and the North Atlantic Treaty Organization (NATO).
- All nine countries were once closely associated with the disintegrating Soviet Union, but later chose the path of democracy.
- Members: Romania, Poland, Hungary, Bulgaria, the Czech Republic, Slovakia and the three Baltic republics of Estonia, Latvia and Lithuania.

Historical Background?

- B-9 was established on 4 November 2015 and takes its name from Bucharest, the capital of Romania.
- The group was created at the initiative of Klaus Iohannis, who has been President of Romania since 2014, and Andrzej Duda, who became President of Poland in August 2015.
- B-9 provides a forum for deepening dialogue and consultation among participating Allied States, to illustrate their specific contribution to the on-going processes in the North-Atlantic Alliance.
- It works in full compliance with the principles of solidarity and indivisibility of security of NATO member states.
- Romania, Poland, Hungary and Bulgaria are former signatories to the now dissolved Warsaw Pact military alliance led by the Soviet Union.

OTHER IMPORTANT FACTS?

'Bucharest Nine' (B-9)

- The 'Bucharest Nine' (B-9) is a group of nine NATO countries in Eastern Europe. It is to be known that these countries of Eastern Europe became part of the US-led military alliance-NATO after the end of the Cold War.
- Its name is derived from Bucharest, the capital of Romania.
- The B-9 is also known as the 'Voice of the Eastern Flank' in the NATO alliance.
- The group was created by Klaus Iohannis, who has been the President of Romania, and Andrzej Duda, who became the President of Poland in August 2015, at a high-level meeting of the States of Central and Eastern Europe in Bucharest.



Likely Question Asked in Preliminary Exam

Question: Consider the following statements:

1. All members of B-9 are part of the European Union (EU) and the North Atlantic Treaty Organization (NATO).
2. All nine countries were once closely associated with the disintegrated Soviet Union, but later chose the path of democracy.
3. The B-9 provides a forum for deepening dialogue and consultation between the participating Allied States, to illustrate their specific contribution to the ongoing processes in the North-Atlantic Alliance.

CODE :

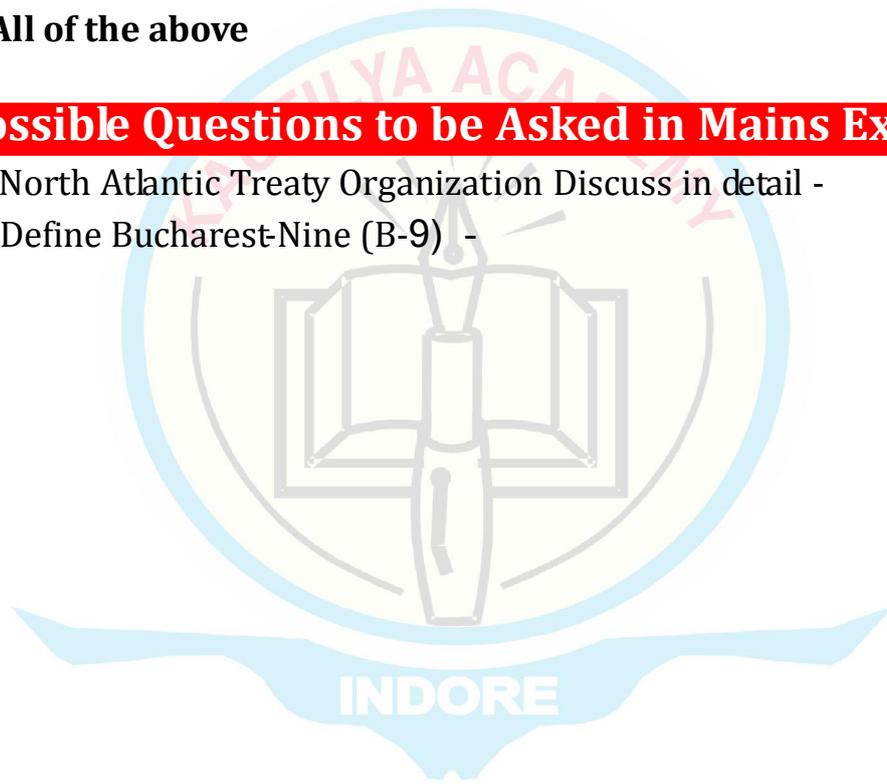
- (A) 01 and 02 (B) 02 and 03
(C) 01 and 03 (D) All of the above

Answer - (D) All of the above

Possible Questions to be Asked in Mains Exam

Question-1 - North Atlantic Treaty Organization Discuss in detail -

Question-2 - Define Bucharest-Nine (B-9) -



**BIMSTEC****Why in Newspapers?**

BIMSTEC (Bay of Bengal Multi-Sectoral Technical and Economic Cooperation) this year is completing 25 years of the visit which started in Bangkok in June 1997. The fifth summit of BIMSTEC will be held in Colombo on 30 March.

Quick Issue?

- One fifth (22%) of the world's population lives in its surrounding seven countries, and their combined GDP is close to \$2.7 trillion.
- The Gulf also has vast untapped natural resources. A quarter of the world's trade cargo crosses the gulf every year.

Historical Background?

- BIMSTEC not only connects South and Southeast Asia, but also the ecology of the Great Himalayas and Bay of Bengal.
- For India, it is a natural platform to fulfil our key foreign policy priorities of 'Neighbourhood First' and 'Act East'.
- For New Delhi, a major reason for connectivity lies in the huge potential that is uncovered with strong connectivity. About 300 million people, or about one-fourth of India's population, live in the four coastal states bordering the Bay of Bengal (Andhra Pradesh, Orissa, Tamil Nadu and West Bengal).
- From a strategic perspective, the Bay of Bengal, which is a funnel of the Strait of Malacca, has emerged as a major theatre for an increasingly assertive China to maintain its access route to the Indian Ocean.
- As China increases assertive activities in the Bay of Bengal region with increased submarine movements and ship visits in the Indian Ocean, it is in India's interest to strengthen its internal linkages among BIMSTEC countries.

OTHER IMPORTANT FACTS?**What is BIMSTEC?**

- In an effort to integrate the region, the group was formed in 1997, originally with Bangladesh, India, Sri Lanka and Thailand, and later comprising Myanmar, Nepal and Bhutan. BIMSTEC, which now includes five countries in South Asia and two countries in ASEAN, is a bridge between South Asia and Southeast Asia. It includes all major countries of South Asia except Maldives, Afghanistan and Pakistan.



Likely Question Asked in Preliminary Exam

Question: Consider the following statements:

1. BIMSTEC connects not only South and Southeast Asia, but also the ecology of the Great Himalayas and Bay of Bengal.
2. For India, it is a natural platform to fulfil our key foreign policy priorities of 'Neighbourhood First' and 'Act East'.
3. The Gulf also has vast untapped natural resources. A quarter of the world's trade cargo crosses the gulf every year.

CODE :

(A) 01 and 02

(B) 02 and 03

(C) 01 and 03

(D) All of the above

Answer - (D) All of the above

Possible Questions to be Asked in Mains Exam

Question-1 - Discuss the importance of BIMSTEC for India -

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