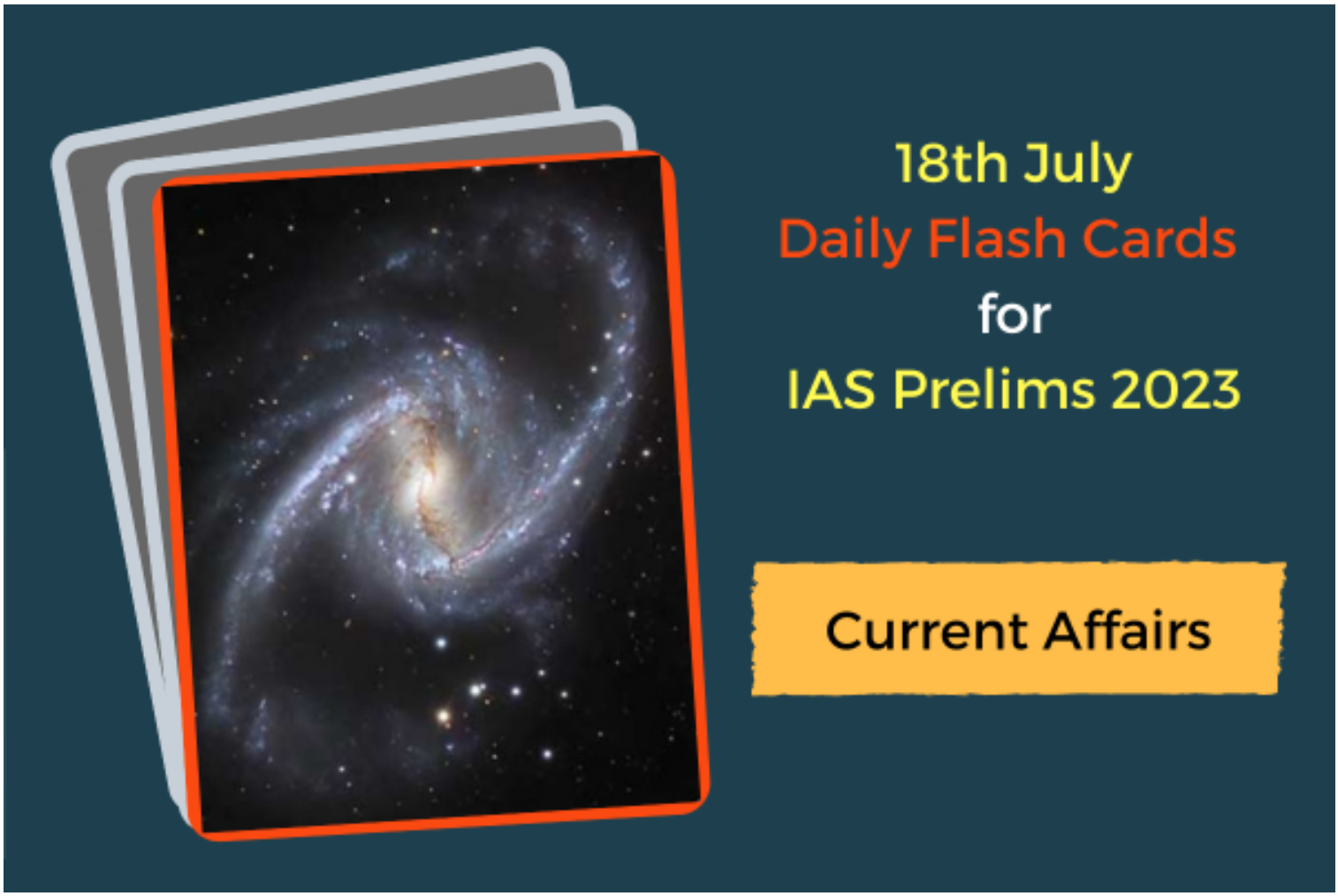
[Flash Cards] Current | 18th July 2023 | For Prelims 2023

By IAS Toppers | 2023-07-18 17:00:00



Question 1

Can you name the two countries to whom Israel has given SPYDER air defence system?

Answer:

SPYDER air defence system was given to India and Singapore by Israel**.**

Detailed Answer:

Answer: SPYDER air defence system was given to India and Singapore by Israel**.**

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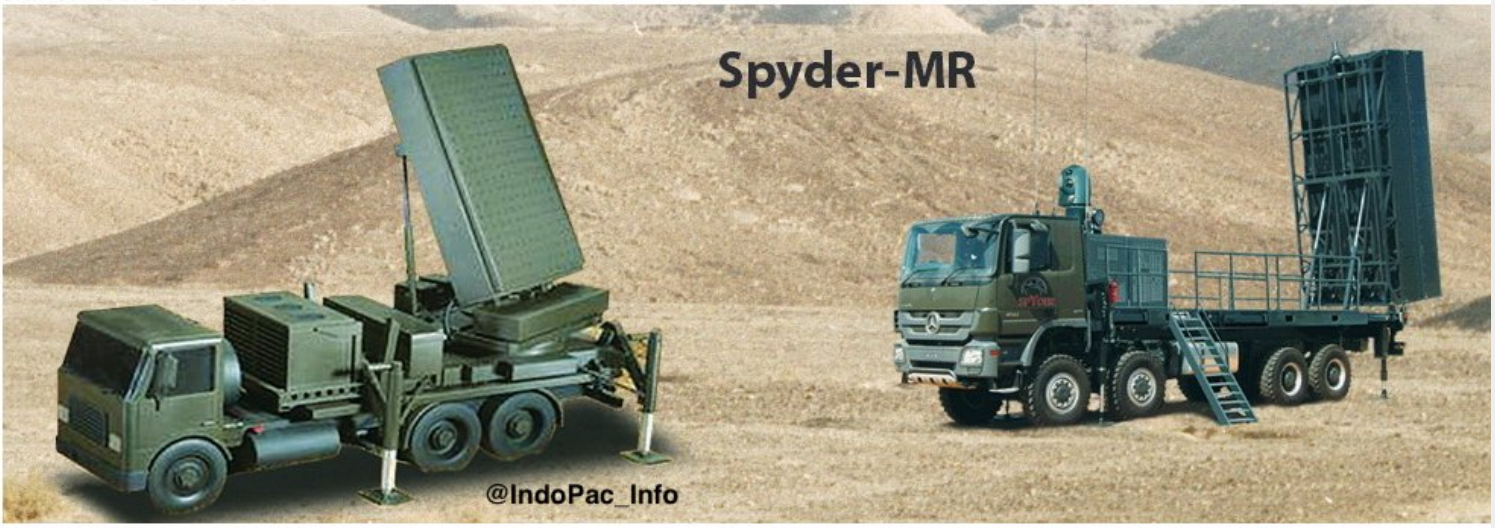
SPYDER SR has 360° engagement capability. Missiles can launch in less than 5 seconds from target confirmation. The kill range is from under 1km to 20 km and at altitudes from 20 m to 9 Km. The SPYDER SR command & control unit has a built in EL/M-2106 ATAR radar. SPYDER SR carries 4 missiles per firing unit. The missile firing units use a slant missile launcher.



SPYDER MR has 360° engagement capability. Missiles can launch in 2 seconds from target confirmation. The kill range is up to 40 km and to 16 Km altitude. SPYDER MR has a separate radar unit using the larger, more powerfull EL/M-2084 radar. SPYDER MR carries 8 missiles per firing unit. The missile firing units use a vertical missile launcher.

[Ref- twitter]

About SPYDER air defence system:

- The SPYDER is a quick-reaction surface-to-air missile defense system.
- The SPYDER is a **low-level**, short and medium **range** mobile air **defense system.**
- The SPYDER is an **Israeli air system,** developed by **Rafael Advanced Defense Systems** with assistance from **Israel Aerospace Industries** (IAI).
- Full form of SPYDER is "**Surface-to-air Python and Derby**".
- It has capability of engaging **aircraft**, helicopters, unmanned air vehicles, drones, cruise missiles and precision-guided **munitions**.
- It provides air defence for **fixed assets** and for **point** and **area defence** for mobile forces in **combat areas.**

- The SPYDER launcher is designed to fire **Python-5** and **Derby** surface-to-air missiles.
    - Both share full commonality with the **air-to-air missiles**.
- **Two variants of SPYDER**: the **SPYDER-SR** (short range) and the **SPYDER-MR** (medium range).
    - Both systems are all weather, network-centric, multi-launchers, and self-propelled.
- Current operators of the **SPYDER** missiles system include **India** and **Singapore**.

Why in News?

Website and **app** will soon be launched by **Commission for Scientific and Technical Terminology** for **technical terminologies**.

Question 2

Can you define what is a Cepheid star?

Answer:

Cepheid stars is a type of variable star whose luminosity fluctuates over a defined period with a well-defined amplitude.

Detailed Answer:

Answer: Cepheid stars is a type of variable star whose luminosity fluctuates over a defined period with a well-defined amplitude.

Enrich Your Learning

About Cepheid star:

- Cepheid stars is a type of **variable star** whose **luminosity** fluctuates over a **defined period**, with a well-defined **amplitude**.
- A direct relationship exists between a **Cepheid variable's luminosity** and its **pulsation** period.
- This characteristic of Cepheids was discovered in **1908** by **Henrietta Swan Leavitt** after studying variable stars in the **Magellanic Clouds**.
- The term Cepheid originates from **Delta Cephei** in the **constellation Cepheus**, identified by **John Goodricke** in **1784**.
    - It was the first of its type to be **identified**.

Hubble constant:

- The **Hubble constant** (H0) is named after the **astrophysicist** who, together with **Georges Lemaitre** had discovered the phenomenon in the late **1920s**.
- It's measured in kilometers per second per megaparsec (km/s/Mpc), where **1 Mpc** is around **3.26 million light years**.

- The best measurement of **H0** is through a "**cosmic distance ladder**," whose **first rung** is set by the **absolute calibration** of the **brightness** of Cepheids.
- In turn, **Cepheids** calibrate the **next rung** of the ladder, where **supernovae** trace the expansion of space itself.
    - **Supernovae** is the powerful explosions of **stars** at the end of their lives.
- H0 can also be determined by **interpreting** the **CMB**, which is the **ubiquitous microwave radiation** left over from the **Big Bang** more than 13 billion years ago.

Why in News?

Recently, a study was carried out for distance measurements of **Cepheid star** based on data collected by the **European Space Agency's** (ESA's) **Gaia mission**.

Question 3

Armado which was recently in news is a kind of a) threatened species of ICUN OR b) modular vehicle for armed forces?

Answer:

Armado which was recently in news is a kind of modular vehicle for armed forces.

Detailed Answer:

Answer: Armado which was recently in news is a kind of modular vehicle for armed forces.

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Armado:

- Armado is India’s first **Armoured Light Specialist Vehicle** (ALSV) for the Indian armed forces.
- Armado is a modular vehicle that can be used in **counter-terrorism operations**, **raids** in open and desert terrains, and **reconnaissance missions**.
- Armado is a **fully-indigenous** vehicle that can accommodate a **driver** and **5 passengers**.
- Armado can carry **standard** weight of **1,000 kg load capacity** with additional **400 kg**.
- **Special forces** and **quick reaction teams** can also use it for **conventional operations**, **weapon-carrying, border patrolling** etc.
- It gets **ballistic protection** of up to the **B7 level** and **STANAG level-2**.
    - Its armour offers protection against **armour-piercing rifles**.
- Armado has **protection** on **all sides** (front, side and rear) from **ballistics** and **explosives**.

Question 4

Name the oceans or sea that surrounds Taiwan.

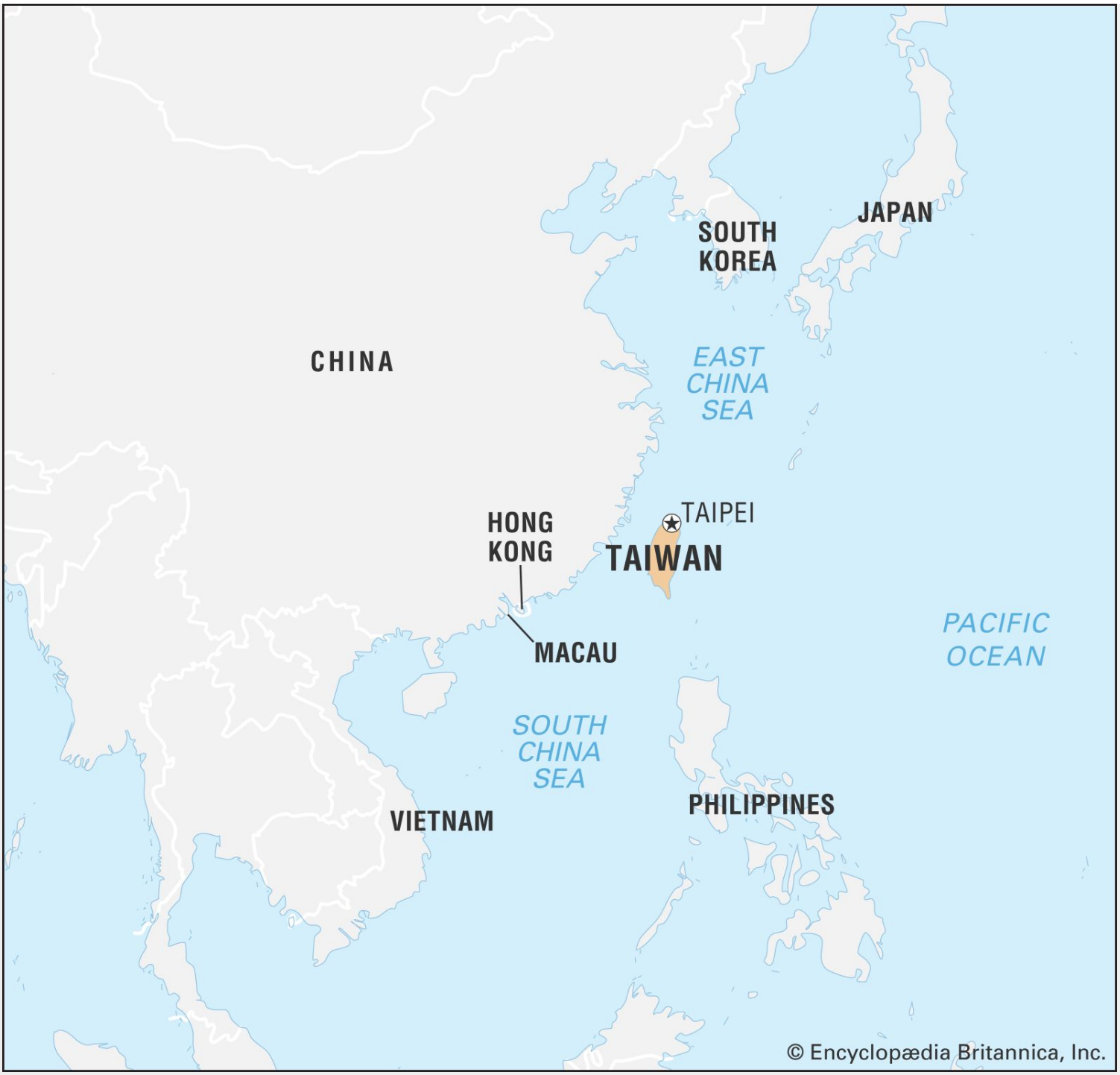
Answer:

Taiwan is located at the concurrence of East China Sea, South China Sea and Philippines Sea.

Detailed Answer:

Answer: Taiwan is located at the concurrence of East China Sea, South China Sea and Philippines Sea.

Enrich Your Learning



[ref-britannica]

Location of Taiwan

- Taiwan is an island in the **western Pacific Ocean**.
- Taiwan lies roughly **100 miles** (160 km) off the coast of **southeastern China**.
- Taiwan is located at the concurrence of **East China Sea**, **South China Sea** and **Philippines Sea**.
- It is part of a string of islands off the coast of **East** and **Southeast Asia** extending from **Japan south** through the **Philippines** to **Indonesia**.

- Taiwan is bounded to the:
  - **North** and **northeast** by the **East China Sea**, with the **Ryukyu Islands** (the southernmost part of Japan) to the **northeast**.
  - **East** by the **Pacific Ocean**
  - **South** by the **Bashi Channel**, which separates **Taiwan** from the **Philippines**.
  - **West** by the **Taiwan (Formosa) Strait**, which separates **Taiwan** from the **Chinese** mainland.
- India considers Taiwan as a part of China under its “One China policy”.
- Significance of location of Taiwan for India is due to **Taiwan Strait.**
  - **Taiwan strait** is one of the **busiest** shipping lanes in the region with nearly **90**% of Chinese, Japanese & Korean trade move towards **Asia**, **Middle East** and **India** passes through this strait.

Why in News?

Recently, there was a move to establish **Taipei Economic and Cultural Centre** (TECC) in **Mumbai** which was in talk since **1995** along with an “**India Taipei Association**” in **Taipei**.

Question 5

Peatland acts as a major source of carbon and hence it is converted into agricultural land by people of Europe. True or False?

Answer:

False.

Peatland is a carbon sink that absorbs most of the carbon present on Earth.

Detailed Answer:

Answer: False.

Correct statement: Peatland is a carbon sink that absorbs most of the carbon present on Earth.

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Peatland

- Peatland is a type of terrestrial **wetland ecosystems** that forms over **thousands** of years from the remains of **dead plants**, storing more **carbon** than any other ecosystem.
- Peatlands have **waterlogged** conditions that prevent plant material from fully **decomposing**.
- Globally, peatlands take up some **3%** of the planet’s land area and they absorb **twice** as much **carbon dioxide** as all the **Earth’s forests combined**.
- When **damp peatlands** are used for other purposes, they are transformed from being a **CO2 sink** to a **potent source** of **greenhouse gas**.

- Former peatlands in **Scandinavia** and the **Baltic states** are mainly used for **forestry**.
    - But in the **Netherlands**, **Poland** and **Germany**, they are used for agriculture.
- Investing in **paludiculture** will help in the long run, where paludiculture is **agriculture** on **rewetted peat soil**.

Why in News?

Recently, The European Parliament accepted has placed a bill- **the Nature Restoration Law** that allows for **30**% of all **former peatlands** used for **agriculture** to be **restored** and partially shifted to other **use** by the end of **2050**.

