

UPSC Daily Current Affairs| One Liners 04-03-2026

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Geography

Total Lunar Eclipse (Blood Moon)

- **Phenomenon** - It Occurs when Sun, Earth, and Moon align (syzygy) during a full Moon, with the Moon passing through Earth's shadow.
- **Earth's Shadow** -
 - **Umbra** - Dark inner cone, full blockage of sunlight.
 - **Penumbra** - Lighter outer region, partial blockage.
- **Types** -
 - **Penumbral** - Subtle dimming.
 - **Partial** - Part of Moon darkens.
 - **Total** - Entire Moon in umbra, most dramatic.
- **Blood Moon Effect** - During total eclipse, Moon appears reddish due to *Rayleigh scattering*.
- Earth's atmosphere filters blue light and refracts red light, illuminating the Moon with the glow of global sunrises and sunsets.

International Relations and Issues

Operation "Lion's Roar"

- **Actors** - Israel (with U.S. support)
- **Target** - Tehran and multiple Iranian cities (Isfahan, Qom, Karaj, Kermanshah, Lorestan, Tabriz, Kenarak naval facilities)
- **Impact** - Isfahan, central to Iran's ballistic missile program, suffered major damage.

Operation "Epic Fury" Summary

It was confirmed by U.S. President Donald Trump via Truth Social.

- **Actors** - United States military forces
- **Target** - Strikes on Iran, described as "major combat operations"
- **Objective** - To prevent Iran from developing nuclear weapons
- **Significance** - It represents the most direct U.S.-Iran confrontation in decades.

Operation "True Promise 4"

- **Initiation** - Launched after U.S. and Israeli coordinated air strikes on Iran and its leadership (Saturday).
- **Actors** - Islamic Republic of Iran.
- **Targets** - Tel Aviv and U.S. assets across the Middle East.
- **Scope** - Counterattacks also targeted Washington's regional allies, including the UAE, Bahrain, Kuwait, and Qatar, all of which host U.S. military bases.
- **Significance** - It marks Iran's direct retaliation against both U.S. and Israeli

Environment

Bats - Vision & Navigation

- **Myth** - Bats rely only on echolocation because they cannot see.
- **Reality** - Bats are not blind; eyesight varies by species.
- **Vision** -
 - *Sensitive to light*, though not sharp or colorful like humans.
 - Many species see well in very low-light conditions.
 - Large fruit bats can *see up to three times better than humans in dim light*.
- **Navigation** -
 - *Use echolocation* by emitting ultrasound.
 - Echoes from objects help determine distance, shape, size, and movement.

GI-Tagged Medicinal Plants		
Medicinal Plants	Place	Use
Navara Rice (<i>Oryza sativa L.</i>)	Kerala	Used in Panchakarma (Navarakizhi); treats rheumatic pain, polio-related disabilities, blood circulation problems, and respiratory diseases.
Green Cardamom (<i>Elettaria cardamomum (L.) Maton</i>)	Kerala & Karnataka	Used to treat asthma, relieve cough, and difficulty in urination.
Ganjam Kewda Flower (<i>Pandanus odorifer (Forssk.) Kuntze</i>)	Odisha	Used for eye problems and respiratory disorders.
Saffron (<i>Crocus sativus L.</i>)	Jammu & Kashmir	Used to treat migraine, heal wounds, vomiting, and skin discolouration and patches.
Nagauri Ashwagandha (<i>Withania Somnifera</i>)	Rajasthan	Used to reduce stress, improve sleep, boost energy, and enhance vitality.

Science

Smart Materials

- **Definition** - Materials characterized by self-adaptability, self-sensing, memory, and decision-making.
- **Response mechanism** - Change shape or properties when exposed to external forces (electrical, magnetic, thermal).
- **Functionality** - Multifunctional; capable of controlled transformations through physical interactions.
- **Sensitivity** - React to variations in temperature, moisture, pH, electric or magnetic fields by altering appearance, state, or properties.
- **Applications** - Defence, packaging, soft robotics, medical devices, adaptive structures, self-powered sensors and more.

Nucleic Acid Testing (NAT)

Supreme Court is weighing whether to mandate NAT for blood transfusions.

- **Definition** - Detect specific nucleic acid sequences to identify pathogens (e.g., viruses, bacteria).
- **Purpose** - To reduce transfusion-transmitted infections (TTIs) by narrowing the window period for HIV, HBV, and HCV.
- **Global adoption** - Introduced in late 1990s; ~33 countries use NAT for HIV, ~27 for HBV.

Thalassemia in India

- India is regarded as the thalassemia capital of the world.
- **Prevalence** - ~40 million carriers and over 100,000 patients.
- **Annual burden** - 10,000-15,000 children born with thalassemia major each year.
- **Global impact** - India accounts for a significant share of the worldwide thalassemia burden.

Thalassemia

- **Definition** - Inherited blood disorder where the body produces insufficient haemoglobin, the protein in red blood cells that carries oxygen.
- **Types** - Classified by which part of haemoglobin is affected and the severity of anemia.
- **Impact** - Severe anemia can damage organs.
- **Prevalence** - More common among individuals with certain family ancestries.
- **Symptoms** - Dizziness, shortness of breath, fast heartbeat, headache, leg cramps, difficulty concentrating, pale skin etc.