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 *(Oryza sativa L.)*	Kerala	Used in Panchakarma (Navarakizhi); treats rheumatic pain, polio-related disabilities, blood circulation problems, and respiratory diseases.
Green Cardamom *(Elettaria cardamomum (L.) Maton)*	Kerala & Karnataka	Used to treat asthma, relieve cough, and difficulty in urination.
Ganjam Kewda Flower *(Pandanus odorifer (Forssk.) Kuntze)*	Odisha	Used for eye problems and respiratory disorders.
Saffron (*Crocus sativus L.*)	Jammu & Kashmir	Used to treat migraine, heal wounds, vomiting, and skin discolouration and patches.
Nagauri Ashwagandha (*Withania Somnifera*)	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.

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