Context:

According to the India Meteorological Department (IMD), Supercyclone ‘Kyarr’, in the Arabian Sea has moved westwards and away from India’s coast.

Tropical Cyclone:

- A tropical cyclone is a rapidly rotating storm system characterized by a low-pressure center, a closed low-level atmospheric circulation, strong winds, and a spiral arrangement of thunderstorms that produce heavy rain or squalls.

- It is an intense low-pressure area in the atmosphere over tropical or sub-tropical waters, with organised convection (i.e. thunderstorm activity) and winds at low levels, circulating either anti-clockwise (in the northern hemisphere) or clockwise (in the southern hemisphere).

- From the centre of a cyclonic storm, pressure increases outwards.

- The amount of the pressure drop in the centre and the rate at which it increases outwards gives the intensity of the cyclones and the strength of winds.

- The cyclones are classified as severe (MSW of 48-63 knots), very severe (MSW of 64-89 knots), extremely severe (MSW of 90-119 knots) and super cyclonic storm (MSW of 120 knots or more). One knot is equal to 1.8 kmph.

CONDITIONS OF TROPICAL CYCLONE FORMATION:

- A source of warm, moist air derived from tropical oceans with sea surface temperature normally near to or in excess of 27 °C.

- Winds near the ocean surface blowing from different directions converging and causing air to rise and storm clouds to form.

- Winds that do not vary greatly with height – known as low wind shear. This allows the storm clouds to rise vertically to high levels;

- Coriolis force/spin induced by the rotation of the Earth. The formation mechanisms vary across the world, but once a cluster of storm clouds starts to rotate, it becomes a tropical depression.

- If it continues to develop it becomes a tropical storm, and later a cyclone/super cyclone.

FACTS:

Kyarr is the ninth super cyclone to have developed in the North Indian Ocean, after Super Cyclone Gonu in 2007.

Gonu was also the strongest cyclone to have made landfall in Oman.

Before that, Odisha was hit by a Super Cyclone in 1999 causing catastrophic damage to the state and massive loss of life and property.

The name Kyaar was given by Myanmar.

Note:

In 2000, eight countries came together to assign names to the tropical cyclones that originate in the Bay of Bengal and the Arabian sea: Bangladesh, India, Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand.

It was then decided that each country will submit a set of names which will be used one by one to name the cyclones. The framing of the list began in September 2004 and later 64 names, eight from each country, were finalised.