**Q**.Why are tropical cyclones more prevalent in Bay of Bengal? Why in recent time there have been more cyclones occurring in Arabian sea? (15 marks)

**Why are tropical cyclones more prevalent in Bay of Bengal? Why in recent time there have been more cyclones occurring in Arabian sea?**

**Introduction**

Thirteen coastal states and Union Territories (UTs) in the country, encompassing 84 coastal districts, are affected by tropical cyclones. Four states (Tamil Nadu, Andhra Pradesh, Orissa and West Bengal) and one UT (Puducherry) on the east coast and one state (Gujarat) on the west coast are more vulnerable to hazards associated with cyclones.

In the last 270 years, 21 of the 23 major cyclones (with a loss of about 10,000 lives or more) worldwide occurred over the area surrounding the Indian subcontinent (India and Bangladesh).

**Body:**

**Reasons for more tropical cyclone originate in Bay of Bengal :**

- Cyclones in the Bay of Bengal can be attributed to the vast low pressure created by the warm water of the ocean.
- The Bay of Bengal shaped like a trough that makes it more hospitable for storms to gain force.
- The high sea surface temperature makes matters more worse in the Bay triggering the intensity of the storms.
- Bay of Bengal gets more rainfall with sluggish winds and warm air currents around it that keep temperatures relatively high all year.
- The constant inflow of fresh warm water from the perineal rivers like Bramhmaputra, Ganga makes it further impossible to mix with the cooler water below.
- The absence of air movements from north-western India towards the Bay in the post-monsoon phase is also another reason for the chances of cyclones in the Bay of Bengal.

This is the first time since the start of satellite records in 1980 in India that there have been four consecutive years of pre-monsoon cyclones in the Arabian Sea. This is because:

- Surface temperatures in the Arabian Sea have increased rapidly during the past century due to global warming. Temp. Now is 1.2–1.4 °C higher than the temperature witnessed four decades ago. These warmer temperatures support active convection, heavy rainfall, and intense cyclones.
- The rising temperature is also enabling the Arabian Sea to supply ample energy for the intensification of cyclones.
- The Arabian Sea is also providing conducive wind shear for cyclones. For instance, a higher level easterly wind drove the depression of Cyclone Ockhi from the Bay of Bengal to the Arabian Sea.

**Conclusion:**

With climate change there will be greater incidences of natural disasters such as cyclones. There is a need to adopt a proper mitigation and adaptation strategy to minimize the loss of life and property due to

these disasters,