

## **1. Misery Index**

### **Why in News?**

- Recently, the Opposition party has demand on '**Misery Index**' to measure Indian Economy.

### **About Misery Index:**

- The sum of inflation rate and unemployment rate is equal to 'Misery Index'.
- It is created by Arthur Okun in 1960's to provide a snapshot of the US economy.
- The higher the index, the more is the misery felt by Average Citizens.
- A variation of the original misery index is the Bloomberg misery index, developed by the online publication.
- It has become popular in recent times as a means to gauge the overall health of the Global Economy.
- It has broadened in Recent Times to include other economic indicators; such as Bank Lending Rates.

## **2. Most Detailed Image of Sun's surface**

### **Why in News?**

- A discovery by researchers using photos of Sun's surface from Daniel K. Inouye Solar (DKIS) Telescope in Maui, Hawaii has shown that the surface is made up of boiling plasma, entirely different from previous imagination.

### **Highlights:**

- The set of images show a close-up view of the Sun's surface, revealing a gold-coloured cell-like pattern.
- The cell-like structures that appear to be 'boiling' indicate motions that transport heat from the Sun's interior to its surface via convection.
- Scientists believe that the photographs can help measure and understand the Sun's magnetic field. This can help predict disruptive space weather events.
- A better understanding of the solar magnetic field can help increase the current warning time by over 70 times, and help secure power grids and Critical Infrastructure.
- To unravel the Sun's Biggest Mysteries, scientists have to not only be able to clearly see these tiny structures from 93 million miles away but very precisely measure their magnetic

field strength and direction near the surface and trace the field as it extends out into the million-degree corona, the outer atmosphere of the Sun.

- The Daniel K. Inouye Solar Telescope boasts a 4-metre mirror, the world's largest for a solar telescope, providing the sharpest High-Resolution Images of the Sun.

### **3. Bionic Jellyfish:**

#### **Why in News?**

- Recently, Scientists have created bionic jellyfish by attaching microelectronics to the marine invertebrates in a bid to use them to observe and explore the world's ocean.

#### **About Bionic Jelly Fish:**

- Jellyfish are found throughout the world's oceans, from the coldest regions to the tropics.
- They have no brains, central nervous system or pain receptor.
- They use a pulsing motion to propel themselves forward, swishing their tentacles as they move to capture prey.
- The new Prosthetic uses electric current to speed up the jellyfish's pulsing, like how a pacemaker regulates the heart rate. The device can direct the jellyfish to start swimming and control the pace.
- Embedding the device does not harm the Jellyfish, nor does the increased speed and it leaves no permanent marks.
- The Scientist want to measure ocean temperature, salinity, oxygen levels using the bionic jellyfish, which would be cheaper to use than ship or submarine. It can go so deep in to the ocean and collect crucial data.

