AJO-Neo : Device to Measure Neonatal Bilirubin Level

Why in News

Recently, researchers from the S.N. Bose National Centre For Basic Sciences (SNBNCBS), Kolkata have developed a device called **“AJO-Neo '' to measure neonatal bilirubin level.**

- SNBNCBS is an **autonomous research Institute** under the **Department of Science and Technology (DST),** Government of India.

Key Points

- **Description:**
    - AJO-Neo is a **non-contact and non-invasive spectrometry-based technique** for measurement of neonatal bilirubin level **without limitations** of other available bilirubin meters.
    - Bilirubin is a **yellowish substance** in the blood. It forms after **red blood cells break down,** and it travels through liver, gallbladder, and digestive tract before being excreted.
        - It is a necessary process in the **body's clearance of waste products** that arise from the destruction of aged or abnormal red blood cells.
- **Significance:**
    - The screening of bilirubin level in new-borns is necessary to **reduce incidents of a type of brain damage called kernicterus** that can result from high levels of bilirubin in a baby's blood.
        - Kernicterus leads to **Neuro-psychiatry problems** in neonates.
- **Advantages:**
    - It is reliable in measuring bilirubin levels in **preterm, and term neonates** irrespective of gestational or postnatal age, sex, risk factors, feeding behavior or skin color.
    - The device delivers an **instantaneous report (about 10 seconds)** to a concerned doctor.
        - The **conventional “blood test”** method takes **more than 4 hours** to generate the report.

Source: PIB