Prelim Bits 08-10-2017

Nobel Prize in Physiology or Medicine

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- Three Americans won the Nobel Prize in Physiology for their discoveries about the biological clock.
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- They have isolated a gene that controls the body's normal daily circadian rhythm.
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- Biological clocks produce circadian rhythms and regulate their timing.
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- Circadian rhythm regulates the periods of tiredness and wakefulness during the 24-hour cycle in synchronizes with earth's rotation.
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- It adapts the workings of the body to different phases of the day.
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- It influences sleep, behavior, hormone levels, body temperature and metabolism.
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- The body responds primarily to light and darkness and is found in all living things viz plants, animals (including microbes) and human beings.
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Nobel Prize in Chemistry

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- It was awarded for the development of technique called "cryo-electron microscopy" which helps in determining the structure of biomolecules in solution.
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- It takes accurate and detailed pictures of living things at atomic scales.
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- The high-resolution, 3D images can help in cancer drug research and better understanding of the Zika virus.
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Nobel Prize in Physics

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- It was awarded for decisive contributions to the LIGO detector and the observation of gravitational waves.
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- Gravitational waves are ripples in the fabric of space-time released by violent events such as mergers of black holes,
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- The Laser Interferometer Gravitational-Wave Observatory (LIGO) is the scientific project that made gravitational wave detection possible.
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- There are two LIGO detectors in USA (Louisiana and Washington), one in Italy (Virgo) and one planned in India (INDIGO) and in Japan (KAGRA).
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Nobel Peace Prize

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- It was awarded to International Campaign to Abolish Nuclear Weapons (ICAN).
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- It was given for its efforts to draw attention to the catastrophic humanitarian consequences of any use of nuclear weapons and to achieve a treaty-based prohibition of such weapons.
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- ICAN is a Geneva-based coalition of non-governmental organisations from over 100 countries around the globe.
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- It began in Australia and was officially launched in Vienna in 2007.
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- It has been the leading civil society actor in the effort to achieve a prohibition of nuclear weapons under international law.
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Embryo Transfer Technology

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- Government has undertaken a Mass Embryo Transfer programme in Indigenous Breeds under National Mission on Bovine Productivity.
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- Embryo transfer refers to a step in the process of assisted reproduction in which embryos are placed into the uterus of a female with the intent to establish a pregnancy.
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- It is implemented with the objective of conservation and development of indigenous breeds under Rashtriya Gokul Mission.
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- Under this programme, embryos of higher genetic merit indigenous bovines are being transferred in to surrogate cows.
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- Embryos of Indigenous breeds such as Sahiwal, Gir, Red Sindhi, Ongole, Deoni and Vechur have been proposed to be transferred under this programme.
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Source: PIB, The Hindu.

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