

COVID- 19 NEWS

HORMONES

Men have appeared likelier than women to die of COVID-19. Trials by researchers in US will seek to find out whether the answer lies in two sex hormones in women — estrogen and progesterone.

About:

- Estrogen and progesterone are the two main sex hormones that characterise a woman.
- Estrogen helps her develop female physical features and also maintains her reproductive system.
- Progesterone is secreted by a temporary endocrine gland that the body produces during the second half of the menstrual cycle, and helps prepare the body for possible pregnancy after ovulation.
- The male body too has estrogen and produces progesterone, both in smaller amounts.
- Now, two teams in the US are testing the theory that these hormones help women fight COVID-19 better.

Hospital Care Assistive Robotic Device (HCARD)

Durgapur-based CSIR lab, Central Mechanical Engineering Research Institute has developed Hospital Care Assistive Robotic Device (HCARD) which can help frontline health care workers in maintaining physical distance from those infected by corona virus.

About:

- HCARD could be effective for frontline health care officials dealing with COVID-19 patients in delivering services while maintaining mandatory physical distancing.
- This robot can be controlled and monitored by a nursing booth with a Control Station having such features as navigation, drawer activation for providing medicines and food to patients, sample collection and audio-visual communication.
- The cost of this device is less than five lakh rupees and the weight is less than 80 kilograms.

Multi-System Inflammatory State

UK's Paediatric Intensive Care Society (PICS) said it had observed an "apparent rise" in the number of children, of all ages, with a "multi-system inflammatory state requiring intensive care", and doctors believe it could be coronavirus-related.

About:

- Multi-system inflammatory state is a rare illness that causes inflammation of the blood vessels, which leads to low blood pressure.
- It affects the entire body as it causes a build-up of fluid in the lungs and other organs. This condition is similar to Kawasaki disease. Patients suffering from it require intensive care to support the lungs, heart and other organs.

Related Info :

- According to PICS, there were also overlapping symptoms of toxic shock syndrome and atypical Kawasaki disease.
- Toxic shock syndrome (TSS) is a rare life-threatening condition caused when certain bacteria enter the body and release harmful toxins. If not treated in time, the condition could be fatal.
- Kawasaki disease is an acute inflammatory disease of the blood vessels and usually occurs in children below the age of five. The inflammation caused by the disease affects many parts of the body but has a more serious effect on the heart.

NATIONAL SOCIAL ISSUES- WOMEN, POPULATION, URBANISATION, EMPOWERMENT ETC

Neet Applies To Minority Colleges: Sc

The Supreme Court held that the National Eligibility-cum-Entrance Test (NEET) is mandatory for admission to medical colleges run by religious and linguistic minority communities.

Key highlights of the judgement:

- Admissions solely through NEET for graduate and postgraduate medical/dental courses does not violate any fundamental and religious rights of minorities. NEET would apply for both aided and unaided medical colleges run by minorities.
- The rights available under Article 30 [right of minorities to administer their institutions] are not violated by provisions carved out in Section 10D of the MCI Act and the Dentists Act and Regulations framed by MCI/DCI.

- The rights of trade, business and occupation or religious rights “do not come in the way of securing transparency and recognition of merits in admissions”.
- The right to freedom of trade or business is not absolute. It is subject to “reasonable restriction in the interest of the students’ community to promote merit, recognition of excellence, and to curb the malpractices.
- Regulating academics and imposing reasonable restrictions to ensure educational standards are in national and public interest.
- NEET is intended to check several maladies which crept into medical education, to prevent capitation fee by admitting students which are lower in merit and to prevent exploitation, profiteering, and commercialisation of education.
- A uniform entrance test qualifies the test of proportionality and is reasonable.

Background:

- The judgment was based on a challenge by the colleges to several notifications issued by the Medical Council of India (MCI) and the Dental Council of India (DCI) under Sections 10D of the Indian Medical Council Act, 1956, and the Dentists Act, 1948, for uniform entrance examinations

National Infrastructure Pipeline (Nip)

The Task Force on National Infrastructure Pipeline (NIP) submitted its Final Report on NIP for FY 2019-25 to the Union Minister for Finance.

About:

- The Final Report of NIP Task Force is projecting total infrastructure investment of Rs 111 lakh crore during the period FY 2020-25. Out of Rs. 111 lakh crore,
 - projects worth Rs 44 lakh crore (40% of NIP) are under implementation,
 - projects worth Rs 33 lakh crore (30%) are at conceptual stage,
 - projects worth Rs 22 lakh crore (20%) are under development.
- Information regarding project stage are unavailable for projects worth Rs 11 lakh crore (10%).
- Sectors such as energy (24%), roads (18%), urban (17%) and railways (12%) amount to around 71% of the projected infrastructure investments in India.
- The Centre (39%) and States (40%) are expected to have almost equal share in implementing the NIP in India, followed by the private sector (21%).
- The Task Force has recommended that three Committees be setup:
 - a Committee to monitor NIP progress and eliminate delays;
 - a Steering Committee in each Infrastructure ministry level for following up implementation; and
 - a Steering Committee in DEA for raising financial resources for the NIP.
- The NIP project database would be hosted on India Investment Grid (IIG) shortly to provide visibility to the NIP and help in its financing with prospective investors; domestic and foreign, able to access updated project level information.

Background: Union Finance Minister in her Budget speech 2019-20 announced that Rs. 100 lakh crore would be invested on infrastructure over the next five years.

INTERNATIONAL AFFAIRS- BILATERAL, GROUPINGS, ORGANISATIONS

SPECIAL 301 REPORT

India continues to be on the ‘Priority Watch List’ of the United States Trade Representative (USTR) for lack of adequate intellectual property (IP) rights protection and enforcement, the USTR said in its Annual Special 301 Report.

Key highlights of the report:

- India remained one of the most challenging economies for IP enforcement and protection. While India made “meaningful progress” to enhance IP protection and enforcement in some areas over the past year, it did not resolve recent and long-standing challenges, and created new ones.
- These long-standing concerns were about
 - innovators being able to receive, maintain and enforce patents particularly in the pharmaceutical sector;
 - concerns over copyright laws not incentivising the creation and commercialisation of content; and

- an outdated trade secrets framework.
- The report also mentioned high customs duties on medical devices and Information and Communications Technology.

Special 301 Report:

- The Special 301 Report is prepared annually by the Office of the United States Trade Representative (USTR) that identifies trade barriers to United States companies and products due to the intellectual property laws, such as copyright, patents and trademarks, in other countries.
- The Special 301 Report is published pursuant to Section 301 of the Trade Act of 1974 as amended by Section 1303 of the Omnibus Trade and Competitiveness Act of 1988.
- The Special 301 Report was first published in 1989.

ENVIRONMENT- CONSERVATION, BIO-DIVERSITY AND ISSUES**Ozone Hole**

The European Union's Copernicus Atmosphere Monitoring Service (CAMS) announced that a hole in the Arctic ozone layer, believed to be the biggest reported, has closed. The ozone hole's closing was because of a phenomenon called the polar vortex, and not because of reduced pollution levels due to Covid-19 lockdowns around the world, reports said.

About:

- Ozone (chemically, a molecule of three oxygen atoms) is found mainly in the upper atmosphere, an area called the stratosphere, between 10 and 50 km from the earth's surface.
- Though it is talked of as a layer, ozone is present in the atmosphere in rather low concentrations. Even at places where this layer is thickest, there are not more than a few molecules of ozone for every million air molecules.
- But they perform a very important function. By absorbing the harmful ultraviolet radiations from the sun, the ozone molecules eliminate a big threat to life forms on earth. UV rays can cause skin cancer and other diseases and deformities in plants and animals.

Ozone holes

- The 'ozone hole' is not really a hole — it refers to a region in the stratosphere where the concentration of ozone becomes extremely low in certain months.
- The 'ozone holes' most commonly talked about are the depletions over Antarctica, forming each year in the months of September, October and November, due to a set of special meteorological and chemical conditions that arise at the South Pole, and can reach sizes of around 20 to 25 million sq km.
- Such holes are also spotted over the North Pole, but owing to warmer temperatures than the South Pole, the depletions here are much smaller in size. Before this year, the last sizable Arctic ozone hole was reported in 2011.

SCIENCE AND TECHNOLOGY- EVERYDAY SCIENCE, SPACE, NUCLEAR, DEFENCE ETC**Ber-D**

Scientists from Jawaharlal Nehru Centre For Advanced Scientific Research (JNCASR) have modified the structure of Berberine into Ber-D to use as a Alzheimer's inhibitor.

About:

- Alzheimer's disease is the most prevalent neurodegenerative disorder and accounts for more than 70% of all dementia. The multifactorial nature of the disease attributed to multifaceted toxicity has made it difficult for researchers to develop effective medication.
- Berberine is poorly soluble and toxic to cells. So they modified berberine to Ber-D, which is a soluble (aqueous), antioxidant. They found it to be a multifunctional inhibitor of multifaceted amyloid toxicity of Alzheimer's disease.
- The structural attributes of Ber-D are such that they prevent the generation of reactive oxygen species (ROS) and rescue biomacromolecules from oxidative damage.

Irrfan Khan

Prime Minister Narendra Modi expressed grief on the demise of actor Irrfan Khan.

About:

- Irrfan Khan was (still is and will remain) one of the greatest Indian actors who worked in Hindi cinema as well as British and American films.

- Khan's career spanned over 30 years and earned him numerous accolades, including a National Film Award, an Asian Film Award, and four Filmfare Awards. In 2011, he was awarded the Padma Shri, India's fourth highest civilian honour.
- In March 2018, Khan was diagnosed with a neuroendocrine tumor.

Neuroendocrine tumors (NETs)

- Neuroendocrine tumors (NETs) are neoplasms that arise from cells of the endocrine (hormonal) and nervous systems.
- They most commonly occur in the intestine, where they are often called carcinoid tumors, but they are also found in the pancreas, lung and the rest of the body.

DAILY ANSWER WRITING PRACTICE

Qns. Discuss in what ways the food processing industry can be a game-changer for Indian agriculture.

Answer :

Food processing generally includes the basic preparation of foods, the alteration of a food product into another form and preservation and packaging techniques. India, being an agrarian economy, has a natural advantage in terms of food processing industries (FPI). Thus, FPI is recognised as the 'Sunrise Industry' in India.

Significance of Food Processing Industries for Indian Agriculture

- **Absorbing Rural Workforce:** In India, it is estimated that nearly 50% of the Indian labour force is engaged in agriculture and allied sectors.
 - Thereby, food processing industries can absorb a major share of workers from the agriculture sector, who face disguised unemployment.
- **Food Security:** If there are good food processing industries in India, raw materials such as grains or meat can be converted into food for domestic and foreign consumption.
- **Increasing Exports:** With an increasing and busy lifestyle, there is an increasing demand for processed food.
 - Thus, by leveraging food processing industries, India can become a key player in the exports of processed food.
 - This may also assist the government to earn foreign exchange reserves and check the current account deficit.
- **Overall Economic Growth:** Food processing industries provide vital linkages and synergies among all the sectors of the economy viz. Primary (agriculture), Secondary (industry) and Tertiary (Transportation of goods, R & D in Agro-processing).
- **Curbing Migration:** Since rural areas are a more favourable factor of location for food processing.
 - Thus, it will check rural-urban migration and poverty in rural India.
- **Doubling Farmers' Income:** Given this multi-sectoral significance, food processing industries can play a critical role in achieving the goal of doubling the farmers' income.

Steps to be taken for the promotion of food processing industries

- The government should adopt a hand-holding approach by establishing risk-sharing mechanisms, fiscal incentives and partnership models for creation of infrastructure for logistics, storage and processing.
- There is a need to foster the development of backward linkages, evolving conducive regulatory framework for contract and corporate farming and encouraging commodity clusters and intensive livestock rearing.
- In this context, the launch of Pradhan Mantri Kisan Sampada Yojana is a step in the right direction.

Conclusion Thus, the need today is to treat food processing as part of the overall food sector and provide all the facilities, exemptions, and concessions as available to agriculture and related activities.