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ANALYSIS**

 LAKSHYA ACADEMY®

18 AUGUST 2023

1 – Details of the National Medical Commission’s new guidelines:

GS II

Government Policies and Interventions

- **Context:**

- These are some of the professional behaviour standards for licenced practitioners of contemporary medicine that have recently been announced by the National Medical Commission (NMC), the nation's top medical regulatory body, through its ethics and medical registration board.

- **Regarding the rules:**

- The recommendations forbid taking commissions from pharmacies or diagnostic labs or participating in conferences hosted by the pharmaceutical sector.

- **Regarding contraception and abortions:**

- The extensive instructions make it clear that no doctor may refuse to perform an abortion or provide birth control as a result of personal religious convictions.

- **Using social media:**

- The document offers an 11-point policy on doctors using social media for the first time.
- It states that while physicians may make statements or share information online, the information must be verifiable and must not deceive people.
- The doctors have been instructed to refrain from discussing the specifics of their patients' care or publishing the results of their scans online.
- The rule prevents doctors from paying for followers, likes, or other services in order to raise their profile on search engines.
- Doctors shouldn't take part in any way in telemedicine platforms that rate, review, and promote particular doctors.
- It also states that the educational content doctors post on social media must be relevant to their particular area of expertise.
- Additionally, doctors have been advised to behave properly whether communicating online or discussing their coworkers.

- **Regarding medications and therapies:**

- Prescriptions must be written by doctors in clear, capital characters.
- They have been instructed to exclusively prescribe generic medications, with the exception of rare circumstances and situations when a medication has a limited therapeutic index.
- Therapeutic index refers to medications when a slight dosage variation could have negative effects.
- In accordance with the recommendations, only approved, logical fixed-dose combos should be prescribed by clinicians.
- They also encourage consumers to buy medications from Jan Aushadhi Kendras and other generic drug retailers and invite doctors to educate the public about the similarities between generic and branded medications.
- The types of medications per type of consultation are also listed in the telemedicine guidelines.

- **Dr.'s discretion to decline treatment:**

- The guidelines allow doctors to withhold care if a patient or a member of their family is abusive, belligerent, or violent.
- Additionally, doctors now have the freedom to decline a patient's request for care if they are unable to pay.
- However, in times of medical emergency, doctors are not permitted to refuse treatment according to the standards.
- They have been instructed to refrain from discriminating on the basis of gender, race, religion, caste, or other social, economic, or cultural considerations.
- CPD stands for continuous professional development.
- For the first time, the regulatory body has mandated that doctors stay current on their knowledge throughout their careers.
- At the time of their licence renewal every five years, doctors are required by regulations to have completed 30 credit points worth of coursework in their respective specialties.
- Despite keeping up with academia, even professors at medical college hospitals must go through this training.
- Institutions that offer these continuous training courses must adhere to rules, and they must also be registered with NMC.

- **Physicians attending conferences:**

- Although the standards require CPD, they also state that no conferences or instructional sessions can be supported by the pharmaceutical sector.
- Therefore, if a doctor presents at a symposium supported by a pharmaceutical company, the doctor is responsible.

- Doctors shouldn't participate in any educational activities sponsored by pharmaceutical corporations, whether they are CPD, seminars, workshops, symposia, conferences, etc.
- The guidelines state that under no circumstances may pharmaceutical corporations give gifts, travel accommodations, hospitality, cash grants, consulting fees, honoraria, or access to leisure or recreational activities to doctors or members of their families.
- The pay of doctors employed by such companies is not subject to this regulation.
- **National Medical Commission information:**
- Medical practitioners and medical education are governed by the National Medical Commission (NMC), a regulating authority.
- In 2020, it took the place of the Medical Council of India.
- **By the Commission:**
- provides acknowledgment for medical credentials,
- gives medical schools accreditation,
- enables medical professionals to register,
- examines medical practise
- evaluates India's medical infrastructure.
- *Source → The Hindu*

2 – All about Luna 25 vs Chandrayaan 3:

GS III

Science and Technology related issues

- **Context:**
- Russian Luna 25 may touch down on the moon before Chandrayaan-3.
- **Key information:**
- Chandrayaan-3 was launched roughly a month before Luna-25.
- Due to the Russian mission's ability to follow a more straight course towards the moon due to its lighter payload and increased fuel storage, it will arrive before Chandrayaan-3.
- The lift-off mass of Luna 25 is only 1,750 kg as opposed to Chandrayaan-3's 3,900 kg.

- **What differences are there between the missions?**

- A rover is not aboard Luna-25.
- A rover on Chandrayaan-3 can travel about 500 metres.

- **Payloads:**

- The eight payloads on the Russian lander are primarily used to detect surface water, analyse soil composition, and analyse dust particles in the polar exosphere.
- In addition to water ice, the Indian mission features scientific equipment for studying the lunar soil.

- **Regarding the lander:**

- There will be four experiments on board the lander.
- ionosphere and atmosphere known as the Radio Anatomy of Moon Bound (RAMBHA)
- It will investigate these characteristics near the moon's surface and how they alter over time.
- The thermal characteristics of the lunar surface close to the polar zone will be investigated by the Chandra's Surface Thermophysical Experiment (ChaSTE).
- By measuring the lunar tremors close to the landing site, the Instrument for Lunar Seismic Activity (ILSA) will analyse the lunar crust and mantle's composition.
- NASA sent a passive experiment called the LASER Retroreflector Array (LRA) on the trip.
- On the rover, there are two scientific experiments.
- The chemical and mineral makeup of the lunar surface will be determined by the LASER Induced Breakdown Spectroscope (LIBS).
- The composition of elements like magnesium, aluminium, silicon, potassium, calcium, titanium, and iron in the lunar soil and rocks will be identified using the Alpha Particle X-ray Spectrometer (APXS).

- **Difference in time:**

- The India mission is designed to last just one lunar day, or 14 days on Earth, which is the fundamental distinction between the two missions.
- This is due to the lack of a heating system to protect the electronics from the bitter cold of the lunar night.
- The Russian mission, on the other hand, has a heating mechanism and a power supply other than merely solar panels because it will operate for an entire year.

- **Source → The Hindu**

3 – About How to make Urea more efficient as a fertilizer:

GS III

Indian Agriculture

- 'Urea Gold' fertilisers was recently formally introduced by the Prime Minister of India.
- **About:**
 - Fertiliser is any substance, whether natural or manufactured, that is applied to plant tissues or mixed with soil to supply nutrients to the plants.
 - Urea, Di-ammonium Phosphate (DAP), and Muriate of Potash are a few examples of fertilisers.
- **Regarding Urea Gold:**
 - Rashtriya Chemicals and Fertilisers Ltd (RCF), a state-owned company, is the one who developed it.
 - Basically, it is urea that has been sulphur-fortified.
 - Nitrogen, also known as N, is the only nutrient that makes up 46% of regular urea.
 - Urea Gold aims at two things and contains 37% nitrogen and 17% sulphur.
 - The initial step is to deliver both S and N.
 - S is a nutrient that is particularly needed by oilseeds and pulses, both of which India imports in large quantities.
 - Enhancing urea's nitrogen utilisation efficiency (NUE) is the second.
 - The release of N is made more gradual by coating S on urea.
 - The plants remain greener for a longer period of time by extending the urea action.
 - When farmers detect the leaves turning yellow, they usually spray urea.
 - They would decrease the frequency of application and use if the crop maintained its greenness for an extended period of time.
- **The issue with urea is:**
 - The most extensively used fertiliser in India is urea.
 - Growing urea consumption raises two issues.
 - The first category is imports, which made up 7.6 mt of the 35.7 mt total sold during the previous fiscal year.
 - Even with domestically produced urea, most of the natural gas utilised as a feedstock is imported.
 - China currently consumes 51 mt of urea annually, surpassing only India's consumption of approximately 36 mt, which is primarily coal-based in China.

- NUE is the second issue.
- In India, crops only use about 35% of the N provided through urea to produce harvest yields.
- The remaining 65% of N is inaccessible to plants; a large portion of it is lost by ammonia gas leakage into the atmosphere or seeping underground after being converted into nitrate.
- Farmers are using increasing amounts of fertiliser for the same yield as a result of declining NUE, which was estimated to be 48% in the early 1960s.

- **The remedy is Urea Gold:**

- India cannot continue to consume urea at the above-mentioned rate, nor can it continue to use DAP, muriate of potash, or other fertilisers that only contain the three primary nutrients: nitrogen, phosphorus, and potassium.
- India has very little deposits of natural gas, rock phosphate, potash, or sulphur.
- As a result, it shouldn't promote the use of these commodity fertilisers.
- Instead, they must be covered with micronutrients (zinc, boron, manganese, molybdenum, iron, copper, and nickel) as well as secondary nutrients (S, calcium, and magnesium).

- **Advantages of coating:**

- Urea or DAP can be used as "carrier products" to provide secondary and micronutrients to crops when they are coated.
- Through synergistic effects and controlled release, it increases the effectiveness of their own N and P use.
- In the case of urea, it aids in lowering losses through nitrate leaching and ammonia volatilization.

- **India's fertiliser consumption:**

- Over the past ten years, India has utilised approximately 500 LMT of fertiliser.
- Due of the high cost of non-urea types like MoP, DAP, and complex, farmers choose to use large amounts of urea.
- Increased cost also results in overuse of urea and detrimental effects on crops.
- The largest consumer of diammonium phosphate (DAP) is India.
- India is third in terms of urea production and consumption worldwide.
- India consumes over 33 million tonnes of urea each year, of which 70% is generated domestically and the remainder is imported.

- **Government subsidy for fertiliser:**

- In India, the agriculture industry contributes 15% of the country's \$2.7 trillion GDP and provides over 60% of the country's total income.

- The Indian government provides fertiliser companies with a subsidy, enabling farmers to purchase fertilisers at prices below the going rate.
- The introduction of neem-coated urea and the promotion of organic and low-cost farming are only two of the many measures the government has done to reduce urea consumption.
- **Recent difficulties:**
 - Due to a drop in production during the Covid-19 outbreak, China, the world's largest exporter of fertiliser, curtailed its exports. This had an impact on India because it was relying on China for 40–45 percent of its phosphate imports.
 - As urea is produced using natural gas, of which Russia is the primary supplier, the current conflict between Russia and Ukraine has also had an impact on the market pricing.
 - Around the world, the need for fertilisers has increased, particularly in the US, Brazil, and Europe.
- **What is a liquid nano urea?**
 - In place of traditional urea, nano urea liquid is a fertiliser based on nanotechnology that promotes crop growth by replenishing nitrogen to plants.
 - In addition to raising the quality of the subsurface water, it increases the crop's yield and nutritional value.
 - Nano Urea readily enters through stomata and other holes when sprayed on leaves and is taken up by plant cells.
 - It is easily dispersed from the source to sink inside the plant as necessary through the phloem.
 - The plant vacuole stores unused nitrogen, which is gradually released to allow for the normal growth and development of the plant.
- **Moving ahead:**
 - Urea can currently be coated with zinc and sulphur thanks to government approval.
 - Aside from urea, P&K fertilisers enhanced with boron and zinc are receiving an additional subsidy of Rs. 300 and Rs. 500 per tonne, respectively.
 - For businesses to promote zincated urea, boronated DAP, or any of the 20 or so fortified products recognised under the Fertiliser Control Order, these additional rates aren't enticing enough.
 - Despite the fact that fortification with micronutrients has been shown to have advantages.
 - There isn't much of a need to fortify right now.
 - To provide even more uniform distribution of micronutrients and spare the farmer the headaches of mixing, the coating should ideally be done at the factory itself.
 - The MRPs for all coated fertilisers can presumably be released by the government.
- **Source → The Hindu**

4 – Details of PC import curbs:

GS III

Indian Economy

- **Key information:**

- With a valid permission for limited imports, these products could be imported.
- All products classified under the Harmonised System of Nomenclature (HSN) 8471, or automated data processing equipment and units, would be subject to import restrictions.
- Importing them for sale to consumers would necessitate a current licence.
- Four situations would result in an extension of the exemption from licencing requirements.
- First, ordering a single item from one of the aforementioned e-commerce websites and having it shipped or delivered into the nation.
- Only pertinent duties would be assigned.
- Also included in this are (reimported) goods for repair and return.
- For purposes including research and development, testing, benchmarking and evaluation, repair and re-export, or product development, permission has been granted to import up to 20 of these items in a consignment.
- The products would need to be either destroyed after their intended use or exported again.
- Items that are a necessary component of an entity's capital good may be imported.

- **The main goals are:**

- Reducing reliance on imports.
- Ensure that the nation has access to reliable systems and hardware.
- Increase product production in the country.
- The government had launched the production-linked incentive (PLI) Scheme 2.0 for IT hardware with regard to domestic manufacture.

- **Current state of domestic production:**

- Domestic production of electronic goods increased by \$87.1 billion in 2021–2022, representing a 15% compound annual growth rate (CAGR) from \$49 billion in 2016–17.
- In FY 2022–23, the nation's imports of the products under consideration totaled nearly \$10.1 billion, a decrease of roughly 13% from the previous year.
- The majority of the laptop and tablet demand was being satisfied by imports.

- **Moving ahead:**

- Accessibility to stocks and potential price effects are the main worries.
- Global businesses with operations in India have requested a delay in implementation of 9–12 months so they may ramp up domestic production and become familiar with the licencing procedure.
- Vendors could arrange for the necessary licencing in the long run.
- Customers will plan ahead for future purchases in anticipation of price increases.

- *Source → The Hindu*



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