# Prelim Bits 09-09-2019

## Influenza classification

- Recently, India was again declared free of the H5N1 virus, which causes 'avian influenza' or 'Bird flu' (earlier declaration in 2017).
- **WHO** defines influenza as a contagious, acute respiratory illness caused by influenza viruses.
- The many kinds of viruses causing influenza are identified by a standard nomenclature issued by the WHO in 1980.

1. It is of four types, A, B, C, and D.

- According to the US Centers for Disease Control and Prevention (CDC), only 'influenza A and B viruses' are known to cause **'epidemics'**.

1. The 'C type' virus usually causes mild respiratory illness.
2. The 'D type' virus typically affects cattle and is not known to infect humans.

- Influenza is known to kill 6.5 lakh people every year, especially young children, elderly, pregnant women or those with vulnerable immune systems.
- Only the 'Influenza A virus' is divided into subtypes, based on two proteins on the surface of the virus,

1. Hemagglutinin (**H**) and Neuraminidase (**N**)
2. Hemagglutinin has **18** further subtypes while
3. Neuraminidase has **11**.
4. They are named from H1 to H18 and N1 to N11 in a sequential system.

- Humans can be infected with avian, swine and other zoonotic influenza viruses.

1. Avian influenza subtypes - A(H5N1), A(H7N9) and A(H9N2).
2. Swine influenza subtypesn- A(H1N1), A(H1N2) and A(H3N2).

- Novel strains of the **H1N1** virus have appeared in 1918, 1957, 1968 and most recently in 2009.
- **WHO** designated global 'bird flu' outbreak in 2009 as **'Pandemic'**.

## Epidemiological Terms to know

- **Endemic -** A disease that exists permanently in a particular geographical

region or population.

- **Epidemic -** An infectious disease spreads rapidly to many people at about the same time.
- **Pandemic -** An epidemic spreads throughout the world.
- **Outbreak -** refers to the number of cases (disease) that exceeds what would be expected.

## Vehicles Pollution test – PUC Test

- Vehicles have to undergo a 'Pollution Under Control' (**PUC**) test, in which a vehicle is certified for a certain period of time.
- The fine for **PUC** violations has now gone up to Rs 10,000 in the recently implemented 'Motor Vehicles (Amendment) Act, 2019'.
- According to the Transport Department, Delhi,

1. 217.7 tonnes of carbon monoxide is emitted every day by vehicles in the city.
2. 84.1 tonnes of nitrogen oxides and 66.7 tonnes of hydrocarbons per day from Vehicular pollution.

- The PUC certificate is a document that any person driving a motor vehicle can be asked to produce by a police.
- The certificates are issued by authorised pollution checking centres if a vehicle is found complying with the prescribed emission norms.
- The test costs between Rs 60 and Rs 100.
- The validity of the test is **1** year for BS IV vehicles and **3** months for others.
- A **PUC** certificate contains information such as,

1. The vehicle's license plate number,
2. PUC test reading,
3. The date on which the PUC test was conducted and
4. The expiry date of the certificate.

- The computerised model for pollution check was developed by the 'Society of Indian Automobile manufacturers' (**SIAM**).

## Chandrayaan-2 in perspective

- The mission has not failed, although the attempt to land a spacecraft on the Moon certainly has.
- The mission comprised an orbiter, a lander and rover, the orbiter part is functioning normally.
- When **'Vikram'** contact was lost, it was travelling at 50 to 60 m/s (180 to 200 km/hour).

1. But a speed of 2 m/s (7.2 km/hr) was required for a safe landing.

- Vikram was designed to absorb the shock of an impact even at 5 m/s (18 km/hr).
- At the rate it was decelerating, it could not even have attained a speed of 5m/s before touchdown.
- It is likely to have hit the Moon at a far greater speed, possibly damaging itself and instruments on board.
- The lander has been located. It was barely a few kilometres from its pre-programmed flight path.
- **ISRO** eventually used the instruments on the orbiter to locate the lander.
- The orbiter has only taken a thermal image, possibly because it passed over the site at a time when there was not enough sunlight and not a normal image, which too is possible.
- The more difficult part is to restore contact with the lander.
- It would depend on how much damage it has suffered, and whether its communication unit is intact.
- Restoration of contact can be done only in the next two weeks.
- After that, the Moon will enter its night (14 Earth days).

1. During which temperatures would be so cold.
2. The instruments are unlikely to behave normally.

- It is possible that some of the instruments on the lander are functional.
- The instruments, if they can be revived, can possibly take readings and communicate with the ground station.
- As of now, it is unlikely that the lander is standing vertically.
- The rover could have come out of the lander only when it was standing vertically.
- It is therefore unlikely that the rover and the two instruments on it could be put to any use now.
- However, 'Orbiter' is functioning normally, instruments onboard will conduct most of the mission's scientific investigations.
- Scientists insist that 80-90% of the science output of the mission have to come from orbiter.

## Krishna Water dispute

- Recently, Maharashtra and Karnataka Chief Ministers jointly oppose Andhra Pradesh's application.
- A.P seeks to relook at the Krishna Water Disputes Tribunal's 2010 order on water distribution between the riparian states.
- This took a new turn in the Krishna water dispute.
- The Krishna is an east-flowing river that originates at Mahabaleshwar in Maharashtra.

- It flowing through Maharashtra, Karnataka, Telangana and Andhra Pradesh before entering into the Bay of Bengal.



- A dispute over the sharing of Krishna waters has been ongoing for many decades.
- In 1969, the 'Krishna Water Disputes Tribunal' (**KWDT**) was set up under the Inter-State River Water Dispute Act, 1956.
- It presented its report in 1973, which was published in 1976.

1. It divided the 2060 TMC of Krishna water at 75% dependability into 3 parts.
2. 560 TMC for Maharashtra, 700 TMC for Karnataka and 800 TMC for Andhra Pradesh.
3. It also stipulated that KWDT order may be reviewed or revised by a competent authority or tribunal any time after May 31, 2000.

- The second KWDT was instituted in 2004. It delivered its report in 2010.

1. It made allocations of the Krishna water at 65% dependability and for surplus flows.
2. 81 TMC for Maharashtra, 177 TMC for Karnataka, and 190 TMC for Andhra Pradesh.

- Soon after the 2010 report, Andhra Pradesh challenged it through a Special Leave Petition before the Supreme Court.
- In an order, the apex court stopped the Centre from publishing it in the official Gazette.
- In 2013, the KWDT issued a 'further report', which was again challenged by Andhra Pradesh in the Supreme Court.
- After the creation of Telangana in 2014, the Water Resources Ministry has been extending the duration of the **KWDT**.
- Andhra Pradesh has since asked that Telangana be included as a separate party at the KWDT.
- The allocation of Krishna waters be reworked among four states, instead of three.
- Maharashtra and Karnataka are now resisting this move.
- According to these 2 states, Telangana was created following bifurcation of Andhra Pradesh.
    - Therefore, allocation of water should be from Andhra Pradesh's share which was approved by the tribunal.

**Source: PIB, The Indian Express**



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