
1. Cancer-Mutated Genes

Why in News?

- Recently, the scientists have completed Pan-Cancer Project, to map gene mutations that drive cancer's development.

Pan-Cancer Project:

- It is also called Pan-Cancer Analysis of Whole Genomes (PCAWG).
- It is an international collaboration of the International Cancer Genome Consortium and The Cancer Genome Atlas (TCGA) to identify and define similarities and differences between cancer types.

Key Findings of the Project:

- The project found people's cancers contain, on average, between four and five fundamental mutations that drive a cancer's growth.
- They divided cancer mutations into “drivers” and “passengers”.
- Driver genes: The genes whose mutations are linked to the development of a disease, in this case, cancer.
- Passenger genes: It's generally believed that passengers are neutral, they play no role in cancer.
- It also developed a new method for “carbon dating” the origins of cancer tumours.
- They were able to identify early mutations in cells that occurred years or decades before cancer appears
- International Cancer Genome Consortium: It is a voluntary scientific organization that provides a forum for collaboration among the world's leading cancer and genomic researchers.
- The Cancer Genome Atlas: It is a landmark cancer genomics program of the US, which has molecularly characterized over 20,000 primary cancers and matched normal samples spanning 33 cancer types.

Cancer Burden:

- Cancer is the second most-frequent cause of death worldwide, killing more than 8 million people every year; incidence of cancer is expected to increase by more than 50% over the coming decades.
- One in 10 Indians will develop cancer during their lifetime, and one in 15 Indians will die of cancer, according to a recent World Health Organization (WHO) report.

2. Project to map India's genetic diversity gets nod

Why in News?

- The government has cleared an ambitious gene-mapping project that is being described as the “first scratching of the surface of the vast genetic diversity of India”.

Highlights:

- The project is said to be among the most significant of its kind in the world because of its scale and the diversity it would bring to genetic studies.
- The ‘Genome India’ project will involve 20 leading institutions including the Indian Institute of Science (IISc) in Bengaluru and a few IITs.
- The first stage of the project will look at samples of 10,000 persons from all over the country to form a grid that will enable the development of a reference genome.

Significance:

- Mapping the diversity of India's genetic pool will lay the bedrock of personalised medicine and put it on the global map.
- Considering the diversity of population in our country, and the disease burden of complex disorders, including diabetes, mental health, etc., it may be possible to take action before the onset of a disease through genome studies.
- Mapping of India's genetic landscape is critical for next generation medicine, agriculture and for bio-diversity management. The project may help to get a sharper understanding of diseases transmitted genetically down the line as well as some Healthy Attributes.

3. National Means-cum-Merit Scholarship Scheme (NMMSS)

Why in News?

- The Union Minister for Human Resource Development informs in the Rajya Sabha that the NMMSS has helped to reduce the drop-out rate at the secondary and senior secondary classes.

NMMSS:

- The Central Sector Scheme ‘National Means-cum-Merit Scholarship Scheme’ (NMMSS) is being implemented since 2008 with the objective to award scholarships to meritorious students of economically weaker sections to arrest their drop out at class VIII and encourage them to continue studies at the secondary stage.

- Under the Scheme, one lakh fresh scholarships @ of Rs.12000/- per annum per student are awarded to selected students of class IX every year and their continuation/renewal in classes X to XII for study in a State Government, Government-aided and Local body schools.
- There is a separate quota of scholarships for each State/UT.
- Students whose parental income from all sources is not more than Rs. 1,50,000/- per annum are eligible to avail of the scholarships.
- The selection of students for the award of scholarships under the scheme is made through an examination conducted by the States/UTs Governments. For appearing in the test, students should have obtained a minimum of 55% marks in the class VIII exam.
- The scheme is boarded on the National Scholarship Portal (NSP) since 2015-16.
 - ✓ The NSP has been developed by the Department of Electronics and Information Technology (DeitY) for streamlining and fast-tracking the release of Scholarships across Ministries/Departments with efficiency, transparency and reliability.
 - ✓ The eligible students from different States/UTs register themselves on NSP.
- The Scheme was evaluated by the National Institute of Planning and Administration (NIEPA).
 - ✓ As per the evaluation study report, the scheme helped poor families in sending their meritorious children for secondary and senior secondary education and has therefore recommended increasing the scholarship amount.

4. Repo Rate

Why in News?

- Recently, the Monetary Policy Committee (MPC) of the Reserve Bank of India (RBI) has decided to keep the Repo Rate Unchanged.

Highlights:

- It is the second policy review meeting where the rates have been kept unchanged.
- The RBI has decided to keep the interest rates unchanged in the wake of a rise in inflation.
- The consumer price index-based inflation has been kept at **5.0-5.4%** for the first half of 2020-21.
- The downside risks to global growth have intensified and have increased in the wake of the outbreak of coronavirus.

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- The GDP growth for the financial year 2020-21 is projected at 6%.
 - The growth projection for the current financial year remains unchanged at 5%

Repo Rate:

- It is the rate at which the central bank of a country lends money to commercial banks.
- It is used by monetary authorities to control inflation.
- The central bank takes the contrary position in the event of a fall in inflationary pressures.

Monetary Policy Committee:

- It is a statutory and institutionalized framework under the Reserve Bank of India Act, 1934.
- It determines the policy interest rate (repo rate) required to achieve the inflation target (4%).
- An RBI-appointed committee led by the then deputy governor Urjit Patel in 2014 recommended the establishment of the Monetary Policy Committee.

