



Topics



- Atrial \square fibrillation
- AI application in health
- Land Subsidence in china
- Glycemic Index'
- Green credit programme
- Mains



By saurabh pandey sir



Target Mains 2024/25

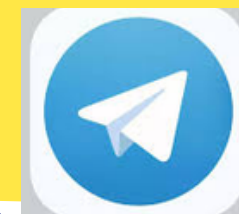


Q“ Private investment reduction will impact economic growth ” Discuss

प्रश्न"निजी निवेश में कटौती से आर्थिक विकास पर असर पड़ेगा" चर्चा करें

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Answer review



Vijaya

Q. "Maritime dimension is an important pillar of India's Act East policy approach" Elaborate.

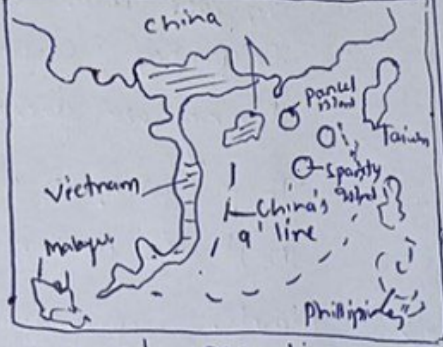
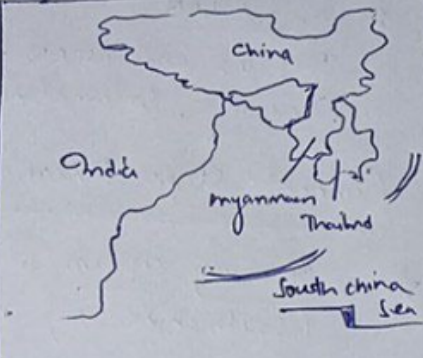
Ans: India's Act East policy started in 1991 largely known as Look East Policy (LEP) name changed in 2014. The objective was to develop political, economic and security co-operation with countries in southwest Asia and also for counterweight to China's aggressive policy at owning places or claiming places in Southeast Asia.

Mainly it has four dimensions like culture, commerce, connectivity and capacity building. Besides, the maritime dimension also plays a crucial role in maintaining peace.

South China Sea is a playground for the India's Act East policy implementation.

Reasons why Maritime dimension is important:

- China unauthoritarily claims the ocean regions of the South China Sea, contradicting the UNCLOS, 1982 definition of EEZ (exclusive economic zone) that countries nearly about 200 nautical miles away from their territorial zone. Natural resources can use and protect.
- Many unresolved disputes around these regions regarding with lands, ocean areas and islands like Spratly Islands, Paracel Island, Scarborough Shoal etc.
- China's strategic initiative to create a network around Indian Ocean region (IOR) called 'string of pearls' initiative. This leading to manipulate India's neighbouring countries like Bangladesh, Myanmar to help in this by constructing road.



How Act East
Besides, Act East policy other initiatives that strengthen maritime dimensions:

- ASEAN
* Association of Southeast Asian Nations (ASEAN) is a political and economic union established by Bangkok declaration 1967. The growth of economics through ocean regions. It is the most important part of Act East policy.
- * U.S - ASEAN
This U.S and ASEAN partnership working together for maritime security, international rules in South China Sea.

Current steps taken for maritime security:

- ⇒ Observing system for Indian Ocean & East Indian Ocean (South China Sea) reactivated with U.S, which started in 2006 with 36 sensor system for the sake of inspection. Security of the maritime region stopped during 2020 due to Covid. This system is also called PAMA at Australia for Asia-Australia sensor system at Pacific Ocean region.
- ⇒ NavIC, a satellite based system developed by ISRO for monitoring Indian boundaries and 15,000 km beyond its territorial boundary that contains seven satellite, the observe, navigate ships around the oceanic region.

As over 66% of the Southeast Asian region is made up of oceans and sea maritime dimension automatically plays a pivotal dimension in India's Act East policy.

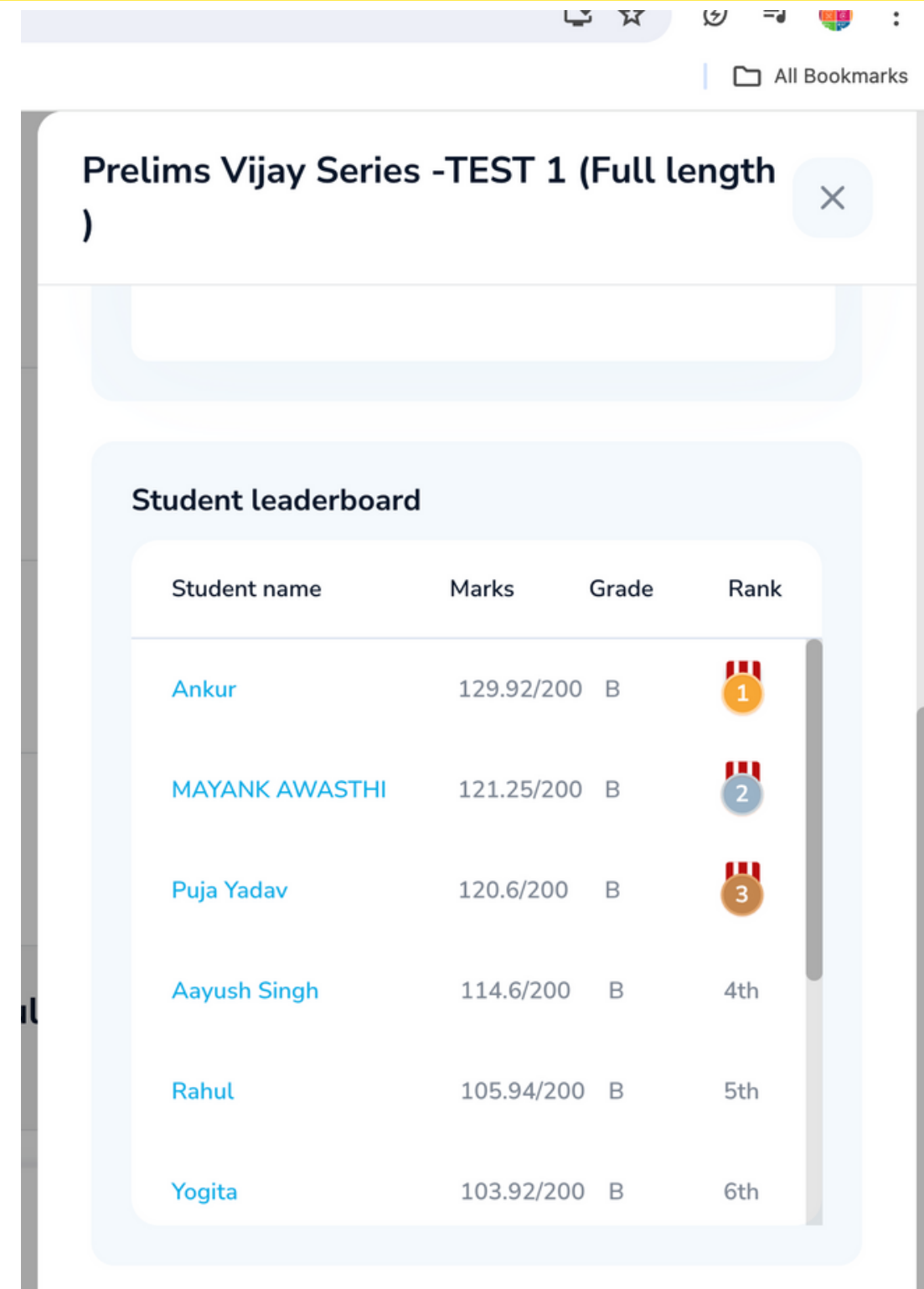


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Ankur -129.92

Mayank - 121.26

Puja Yadav-120



Prelims Vijay Series -TEST 1 (Full length)

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Ankur	129.92/200	B	1
MAYANK AWASTHI	121.25/200	B	2
Puja Yadav	120.6/200	B	3
Aayush Singh	114.6/200	B	4th
Rahul	105.94/200	B	5th
Yogita	103.92/200	B	6th

Heart failure is the common complication of atrial fibrillation

The Hindu Bureau

The lifetime risk of atrial fibrillation (a heart condition that causes an irregular and often abnormally fast heart rate) has increased from one in four to one in three over the past two decades, as per a study published in *The BMJ*.

Among those with the condition, two in five are likely to develop heart failure over their remaining lifetime and one in five en-

counters a stroke, with little or no improvement in risk evident over the 20 year study period.

Once atrial fibrillation develops, patient care has primarily focused on the risk of stroke, but other complications such as heart failure and heart attack have yet to be fully explored. To address this knowledge gap, researchers analysed national data for 3.5 million Danish adults with no history of

atrial fibrillation at age 45 or older to see whether they developed atrial fibrillation over a 23 year period (2000-22).

Lifetime risk

All 3,62,721 individuals with a new diagnosis of atrial fibrillation during this time (46% women and 54% men) but with no complications, were subsequently followed until a diagnosis of heart failure, stroke or heart attack. The

results show that the lifetime risk of atrial fibrillation increased from 24% in 2000-2010 to 31% in 2011-22. The increase was larger among men and individuals with a history of heart failure, heart attack, stroke, diabetes, and chronic kidney disease. Among those with atrial fibrillation, the most common complication was heart failure (lifetime risk 41%). This was twice as large as the lifetime risk of

any stroke (21%) and four times greater than the lifetime risk of heart attack (12%).

Men showed a higher lifetime risk of complications after atrial fibrillation compared with women for heart failure (44% vs 33%) and heart attack (12% vs 10%), while the lifetime risk of stroke after atrial fibrillation was slightly lower in men than women (21% vs 23%).

Over the 23-year study

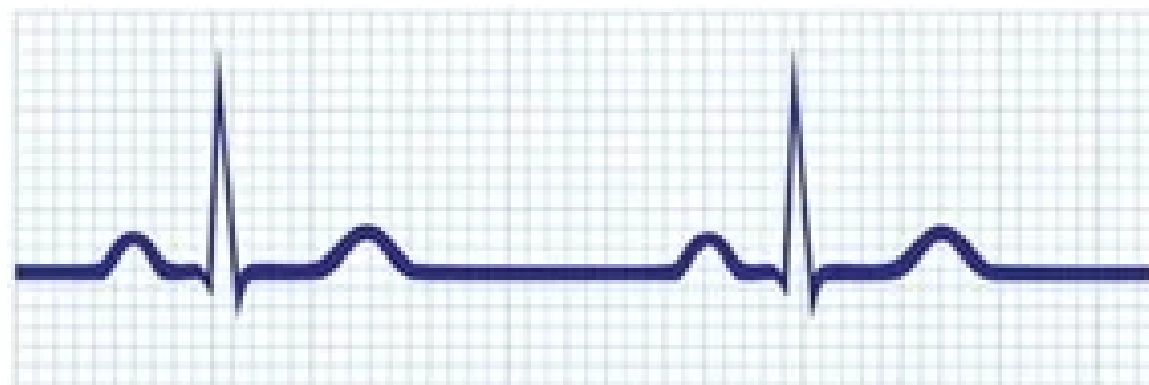
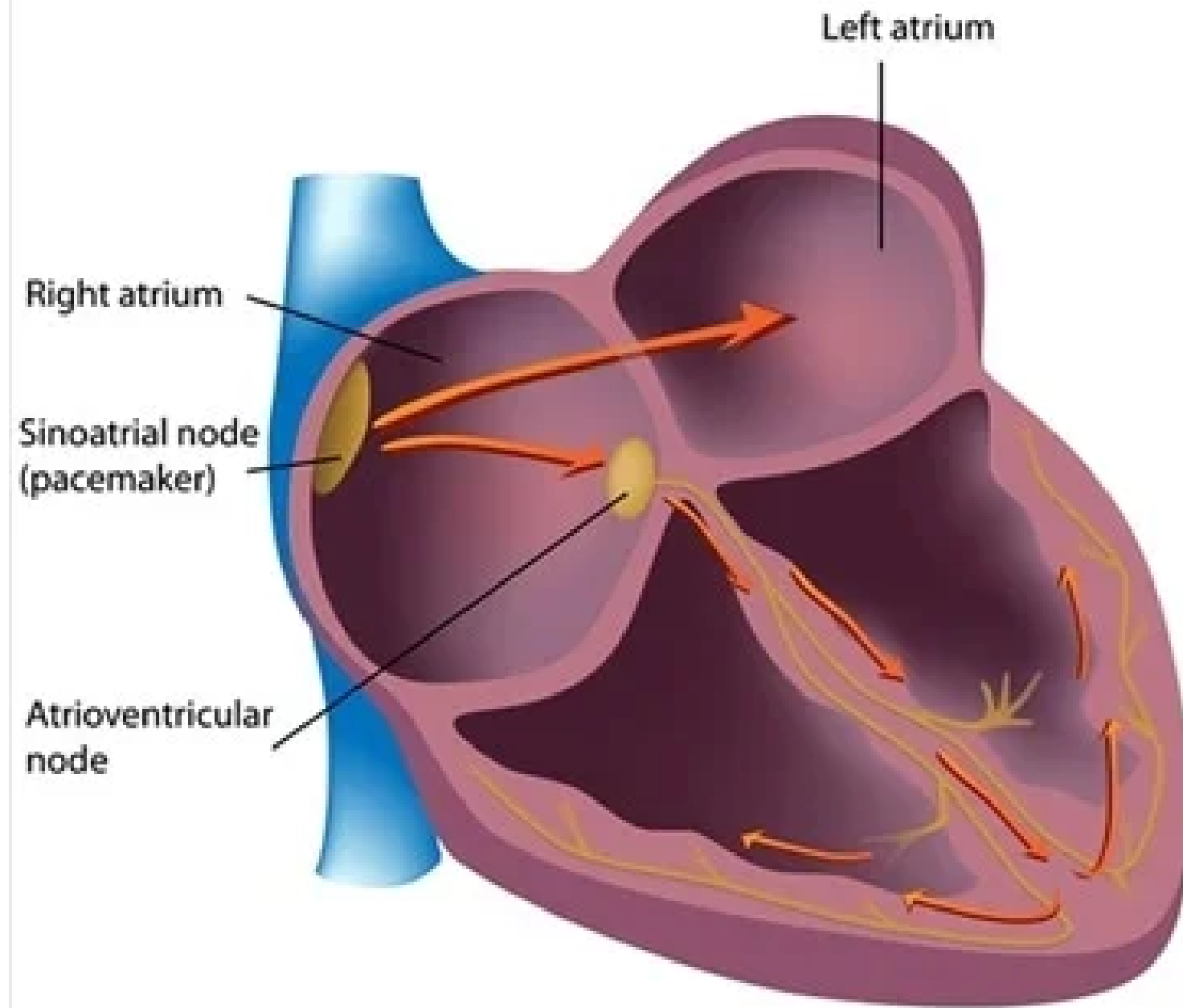
period, there was virtually no improvement in the lifetime risk of heart failure after atrial fibrillation (43% in 2000-10 vs 42% in 2011-22) and only slight (4-5%) decreases in the lifetime risks of any stroke, ischaemic stroke, and heart attack after atrial fibrillation, which were similar among men and women. This is an observational study, so no firm conclusions can be drawn about cause and effect.



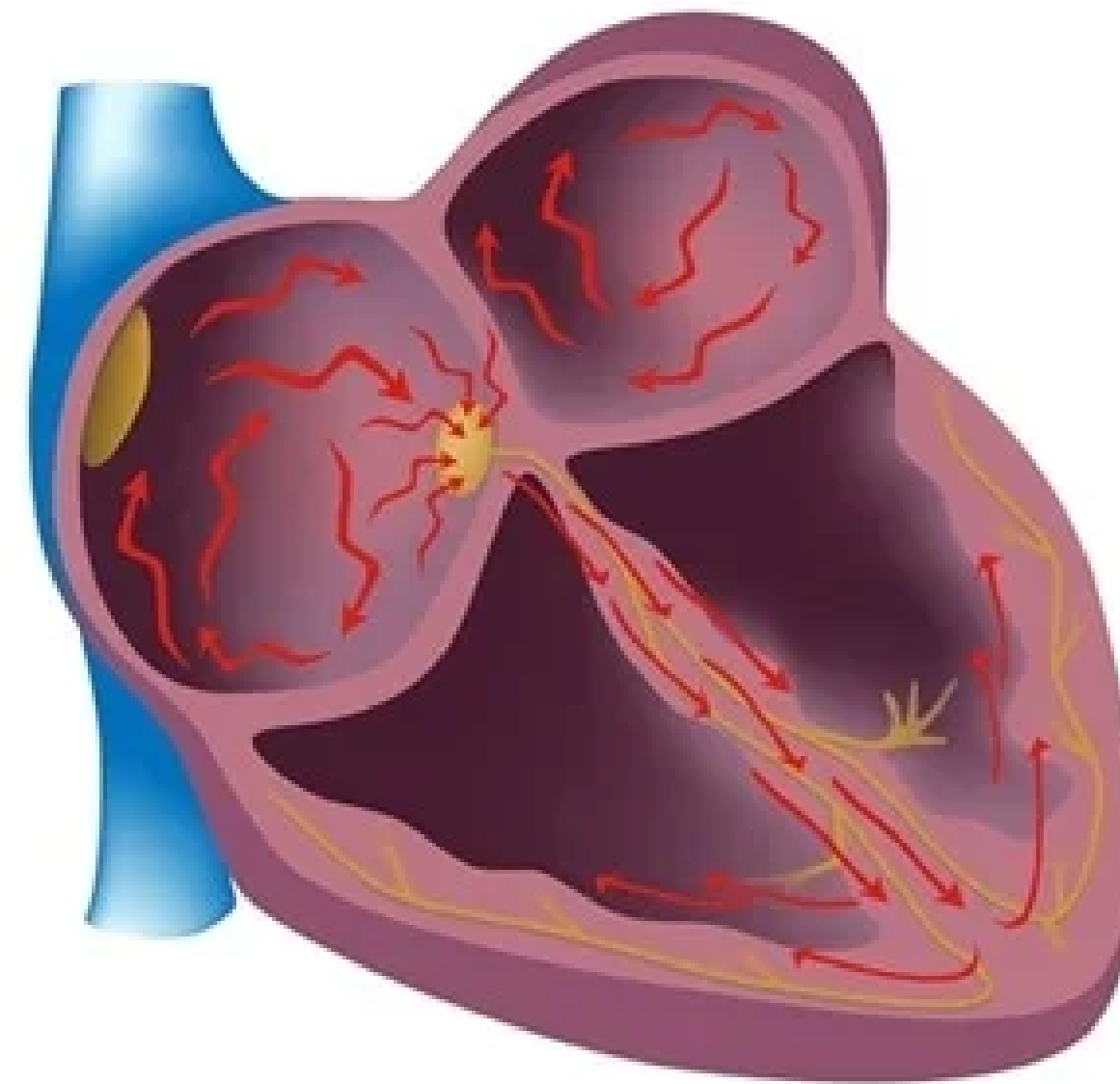
Atrial Fibrillation

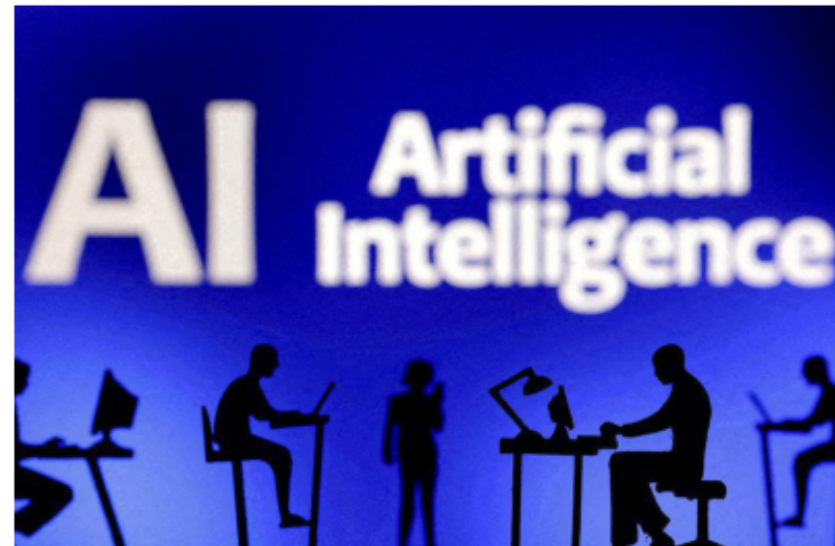
- **The lifetime risk of atrial fibrillation (a heart condition that causes an irregular and often abnormally fast heart rate) has increased from one in four to one in three over the past two decades.**

Normal



Atrial Fibrillation





AI doubles detection rates for esophageal cancers

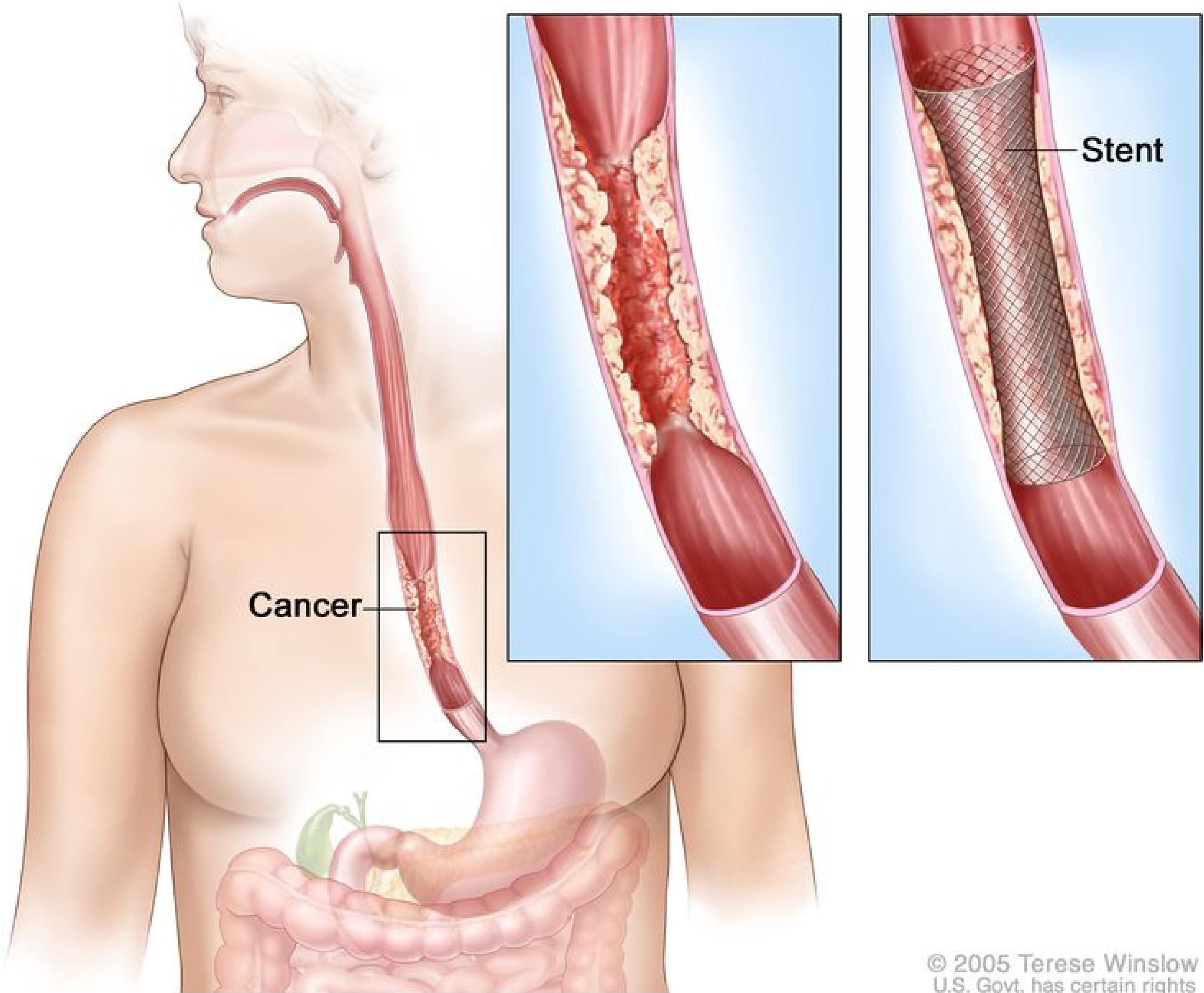
Scientists have developed an AI system that can boost detection rates for cancerous and precancerous lesions in the esophagus. Tested with more than 3,000 patients in China, the algorithm almost doubled detection rates for high-risk lesions during routine endoscopies. The new approach could enable earlier diagnosis and timelier treatment of early-stage esophageal cancer. Researchers harnessed the power of machine learning in real-time to allow doctors to detect high-risk esophageal lesions more reliably.



AI application in health

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Esophageal Stent





China's major cities show considerable subsidence

The land under nearly half of China's major cities is undergoing moderate to severe subsidence, affecting roughly one-third of the nation's urban population, as per a study. The findings suggest that within the next century, 22-26% of China's coastal land will have a relative elevation lower than sea level, putting hundreds of millions of people at elevated risk of flooding due to sea-level rise. The subsidence is associated with a range of anthropogenic factors.



Land Subsidence in china

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- The subsidence is associated with a range of anthropogenic factors.



Glycemic index of diets: importance beyond diabetes control

V. Mohan

The concept of 'Glycemic Index' was first proposed by Prof. David Jenkins of the University of Toronto in 1981. The glycemic index (GI) of a food refers to the property of the food to increase the blood glucose level and is a measure of the 'quality' of carbohydrates. Glucose or white bread is used as the comparator. The GI of glucose is taken as 100 and the GI of other foods is given as a percentage of this. Thus, the GI of foods is classified as low GI (less than 55), medium GI (56- 69) and high GI (over 70). The GI multiplied by the amount of the carbohydrate consumed, determines the glycemic load (GL).

Many nutritionists strongly believe in the

deleterious effect of consuming diets with high GI and conversely the beneficial effects of taking diets with low GI. There are others who believe that this is too simplistic an approach. Their argument is that carbohydrate is only one of the macronutrients of food and the quality of protein and fat are ignored if only GI is used to assess the quality of a diet.

Existing evidence

However, there is a lot of evidence to support the growing importance of the GI and GL of diets. The link between high GI and GL diets to the risk of type 2 diabetes has been established recently. However, what is less known is the association of high GI diets with cardiovascular disease and mortality.



Diets with high glycemic index are associated with major cardiovascular events, including deaths. ISTOCKPHOTO

The Prospective Urban Rural Epidemiology (PURE) study, of which we are also a part, involves 137,851 participants in 20 countries (including India) in five continents who have been followed for decades. In a paper published in the *New England Journal of Medicine* in 2021, we looked at the association of

the GI and GL of diets with cardiovascular disease. We used country specific food frequency questionnaires to assess the GIs and GLs of various diets in different countries.

We reported that diets with high GI were associated with major cardiovascular events including deaths across all ethnicities. This

was an eye opener regarding the importance of the GI of foods because until this study was published, it was not known that the importance of GI extends beyond diabetes.

These findings are particularly relevant to India and South Asia where carbohydrate consumption in the form of high GI white rice or wheat, forms the bulk of calories, leading to very high GL of our diets.

Hence all attempts should be made to reduce the GI and GL of our diets. This could help, not only in the prevention and control of diabetes but also in reducing the incidence of cardiovascular disease which occurs at much younger ages in our country.

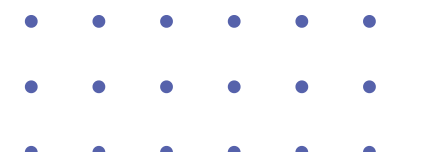
Examples of diets with low GI include brown rice,

steel cut oats, legumes, pulses and beans, fruits like apple and guava, and vegetables like spinach, lettuce, brinjal, broccoli, tomatoes, paneer, soya, nuts and seeds.

Diets with high GI include sugar and sweets, white rice, maida, potato, white bread, sweetened drinks, jaggery, cornflakes and cookies.

If diets with high GI, i.e., the 'bad' carbohydrates, are replaced with 'good' carbs which have low GI and this is combined with adequate physical activity (exercise), it could help to curb the growing incidence of premature cardiovascular disease in India.

(V. Mohan is Chairman, Dr. Mohan's Diabetes Specialities Centre & Madras Diabetes Research Foundation, Chennai)



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What are the new Green Credit Programme rules?

Who will carry out afforestation measures? What will States need to do? Can companies trade green credits?

Jacob Koshy

The story so far:
On April 12, the Environment Ministry issued further guidelines on its Green Credit Programme (GCP), two months after it had prescribed rules governing the first initiative, afforestation. Modifying the rules, an official said, will prioritise the restoration of ecosystems over mere planting of trees.

What is the Green Credit Programme?
This programme was officially unveiled in October 2023 and has its provenance in Mission Life, a principle frequently articulated by Prime Minister Narendra Modi. Its goal is to lay an emphasis on sustainability, reduce waste and improve the natural environment. The GCP programme presents itself as an “innovative, market-based mechanism” to incentivise “voluntary actions” for environmental conservation, according to a document of the Environment Ministry. Under this, individuals, organisations and companies – public and private – would be encouraged to invest in sectors ranging from afforestation, water conservation, stemming air pollution, waste management, mangrove conservation and in return be eligible to receive ‘green credits.’ An autonomous body of the Ministry, the Indian Council of Forestry Research and Education (ICFRE), is in charge of administering the

programme. They will define methodologies to calculate ‘green credits’ that result from the activities prescribed. They will also manage a trading platform whereby such credits could be traded.

In February, the Ministry prescribed the rules governing the first of these initiatives – afforestation.

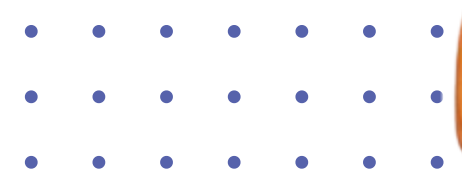
Broadly, companies, organisation and individuals could offer to pay for afforestation projects in specific tracts of degraded forest and wasteland. It said, the actual tree planting would be carried out by the State forest departments.

Two years after planting and following an evaluation by the ICFRE, each such planted tree could be worth one ‘green credit.’ So far, The Hindu has learnt that forest departments of 13 States have offered 387 land parcels of degraded forest land, worth nearly 10,983 hectares. Those who are successful in fulfilling the criteria will be given an estimate of the costs involved in afforestation. Public sector companies such as Indian Oil, Power Grid Corporation of India, the National Thermal Power Corporation, Oil India, Coal India, National Hydropower Corporation have reportedly registered to invest in the programme, a Ministry official confirmed.

Why has the GCP stoked controversy?
The GCP has not become operational but critics have questioned multiple aspects of it. The first is that it makes a commodity out of environmental conservation. India’s forest conservation laws oblige any industry, that is allowed to raze forests and use that land for non-forestry purposes, to provide an equivalent amount of non-forest land to forest authorities and pay them to afforest that land.

The GCP programme for afforestation says that companies can “exchange” their credits for “complying with compensatory afforestation”. This could be a way, critics say, to ease forest diversion requirements for mining and infrastructure companies. Secondly, planting trees does not automatically boost ecosystems. India has about 200 types of forests. Some are grasslands, some are dominated by shrubs and there have been studies to show that planting the wrong types of trees could foster invasive species or prevent a sustainable ecosystem. There is also a threat that natural forests could be razed and invasive monocultures promoted. Finally, the GCP also says that green credits that result in storing carbon (from trees) may be used for carbon trading. This again is controversial as the math equating these activities is not clear.

How has the government responded?
In its latest update, the Ministry has issued the guidelines that States must rely on to calculate what it would cost to restore a degraded forest landscape. The Ministry has tweaked an earlier requirement that there be a minimum of 1,000 trees per hectare to qualify as a reforested landscape and left it to States to specify them. “Not all degraded forests can support that kind of density. Thus, in some places shrubs, herbs and grasses may be suitable for restoring the ecosystem,” Nameta Prasad, Joint Secretary, in the Environment Ministry told The Hindu. Preference would be given to indigenous species. The programme was currently in a “pilot project” mode and questions such as how shrubs and grasses could be quantified in terms of green credits were still being worked out, she added. Moreover, companies would not be able to offset all their obligations under compensatory afforestation using green credits, but could claim a portion of it, she clarified.





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The Hindu analysis by saurabh pandey sir





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- They will define methodologies to calculate ‘green credits’ that result from the activities prescribed.





- They will also manage a trading platform whereby such credits could be traded. In February, the Ministry prescribed the rules governing the first of these initiatives – afforestation.
- Broadly, companies, organisation and individuals could offer to pay for afforestation projects in specific tracts of degraded forest and wasteland. It said, the actual tree planting would be carried out by the State forest departments. Two years after planting and following an evaluation by the ICFRE, each such planted tree could be worth one ‘green credit.’



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The Hindu analysis by saurabh pandey sir



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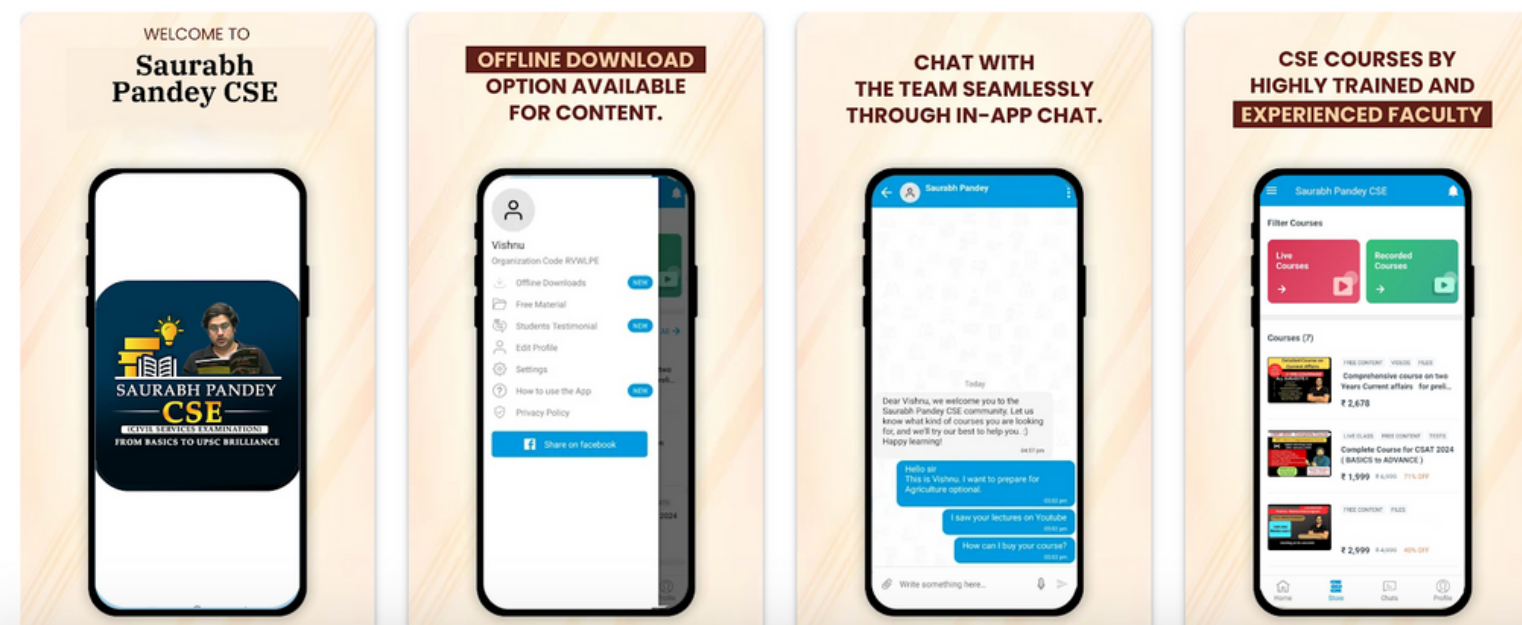
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