INTERNATIONAL RELATIONS

PACE SETTER FUND

Why in news?

- The Ministry of New and Renewable Energy awarded Grants to the awardees of the second round of PACE setter fund programme.

**PACE setter fund:**

- The PACE setter fund was constituted by India and the USA in 2015 as a joint fund to provide early-stage grant funding to accelerate the commercialization of innovative off-grid clean energy products, systems, and business models.
- The Fund’s main purpose is to improve the viability of off-grid renewable energy businesses that sell small scale (under 1 megawatt) clean energy.

For any further enquiries, kindly contact us on: 9446331522, 9188152205

Note: We attempt to cover new issues every day and drop the issues which are already covered. Therefore aspirants are advised to regularly follow NEO IAS daily current affairs material and video for a guaranteed success in Prelims 2020. NEO IAS daily current affairs stands out from other daily current affairs by its exclusive UPSC prelims focus on aspects that lie in and beyond current affairs.
systems to individuals and communities without access to grid connected power or with limited/intermittent access (less than 8 hours per day).

✔ Grant decisions are made by a Steering Committee composed of representatives from the Governments of India and the United States.
✔ The Steering Committee will be advised by an Executive Committee comprised of governmental and non-governmental experts from both countries.
✔ The bi-national Indo-US Science and Technology Forum (IUSSTF), New Delhi, India is the Administrator of the Fund.
✔ The following priorities will receive strong consideration in grant-making decisions:
  - **Innovation**: The PACE setter Fund prioritizes innovative technologies, business models, and programs.
  - **Early-stage funding**: The PACE setter Fund is focused on accelerating the commercialization of innovative off-grid clean energy solutions by providing early-stage grant funding that allow for the development and testing of innovative solutions.

**QUAD**

Why in news?
✔ Quad - Foreign Ministers of India, US, Japan and Australia are scheduled to meet on the sidelines of the UN General Assembly meeting in New York.

QUAD:
✔ QUAD is a regional coalition (Quadrilateral Formation) of four major democracies ie. USA, India, Japan and Australia.
✔ It is based on their converging vision and values for promotion of peace and prosperity in an increasingly inter-connected region that they share with each other and with other partners.
✔ The Quadrilateral mechanism will work on agreeing to increase the possibilities of trade and connectivity.
✔ The quadrilateral is seen to counter China's aggressive maritime expansion under its Belt and Road initiative.

**Aim:**
✔ Promote free, open, prosperous and inclusive Indo-Pacific.
✔ Addressing common challenges of terrorism and proliferation linkages impacting the region.
✔ Enhance connectivity.
✔ Promote free trade and defence cooperation across a stretch of ocean from the South China Sea, the Indian Ocean and all the way to Africa.

**A counter to China:**
✔ The concept of quadrilateral cooperation among India, Japan, Australia and the US is inextricably linked to China’s emergence as a great power.
✔ The fear of China’s growing unilateralism drives major nations to strive to reduce the regional imbalance by banding together.

**SCIENCE & TECHNOLOGY**

**NANOCURCUMIN ENHANCES BCG VACCINE EFFICACY**

Why in news?
✔ A study carried out on mice models has found that curcumin in nanoparticle form has the potential to enhance the efficacy of BCG vaccine such that it confers protection against adult pulmonary TB.

About the News:
The researchers found that injecting curcumin nanoparticles soon after vaccinating the mice with BCG produced an appreciable enhancement of immune memory cells (T central memory cells) responsible for long-term protection against TB infection.

**BCG vaccine:**
- BCG vaccine is effective against disseminated and meningeal TB in young children.
- But the protection does not last for long as the host-protective immune responses that the vaccine induces diminishes over time. Thus the vaccine is not protective in adults.

**Enhanced efficacy:**
- In children, the vaccine induces two types of immune cells — effector memory T cells and central memory T cells.
- While the effector memory T cells play a crucial role in mounting an immediate immune response against virulent TB bacteria and kill them, the central memory T cells help in long-term protection in children from childhood TB.
- After persisting for some time, the central memory cells ultimately diminish. As a result, the protection does not last beyond childhood and adults become vulnerable to TB infection despite BCG vaccination.
- One way of enhancing the efficacy of the BCG vaccine is by increasing the number of central memory cells so they last longer and confer protection for longer duration.
- In nature, dynamic balance exists between the two types of immune T cells — central memory cells and effector memory cells.
- Altering the ratio to increase the number of central memory cells will help in enhancing the efficacy of the BCG vaccine.

**How efficacy enhanced with Curcumin?**
- Curcumin also helps in the activation of innate immune cells known as macrophages and dendritic cells.
- TB bacteria reside and grow inside the macrophages.
- But once activated by curcumin nanoparticles, the macrophages and dendritic cells clear the bacteria and also enhance the level of TB-specific acquired immune cells (Th1 and Th17 cells).

**Multipronged effect:**
- Curcumin nanoparticles not only increase the level of TB-specific acquired immune cells Th1 and Th17 but also simultaneously reduce the level of certain other cells (Th2 and Tregs) thus improving the efficacy of the BCG vaccine.
- After TB infection, the levels of Th2 and Tregs cells increase and they inhibit the host-protective effect of Th1 and Th17 responses.
- So blocking or reducing the level of Th2 and Tregs cells enhances the vaccine efficacy.

**GRAVITATIONAL WAVES**

**Why in news?**
- Researchers have, for the first time, detected the gravitational waves from a newly born black hole and found that the ringing pattern of the waves predicts the cosmic body’s mass and spin.

**About the news:**
- Researchers have, for the first time, detected the gravitational waves from a newly born black hole and found that the ringing pattern of the waves predicts the cosmic body’s mass and spin.
This provides more evidence for Albert Einstein’s General Theory of Relativity.

Einstein theorized that a black hole, born from the collisions of two massive black holes should itself “ring” in the aftermath, producing gravitational waves much like a struck bell reverberates sound waves.

The latest study showed that when a black hole is birthed, it emits gravitational waves at characteristic tones just like a struck bell; it fades away as the hole settles.

**According to Einstein’s theory:** a black hole should exhibit just three observable properties: mass, spin, and electric charge. All other characteristics would be swallowed up by the black hole itself.

The black hole acts as a one-way trapdoor.

**Black Holes and Gravitational Waves:**

- Gravitational waves are disturbances in the curvature of space time, generated by accelerated masses that propagate as waves outward from their source at the speed of light.
- A black hole is a region of space time exhibiting gravitational acceleration so strong that nothing—no particles or even electromagnetic radiation such as light—can escape from it.
- A black hole does not emit light by itself, but the matter that it consumes can be a source of light.
- Most black holes are remnants of large stars that die in supernova explosions. There are four types of black holes: stellar, intermediate, supermassive, and miniature.

**Note- Sagittarius A**:  
- A supermassive black hole sits 26,000 light years away from Earth, near the Galactic Centre, or the centre of the Milky Way called Sagittarius A*, it is one of the few black holes where we can witness the flow of matter nearby.
- The Sagittarius A* has become hungrier, and has been feeding on nearby matter at a markedly faster rate.

**TOBACCO**

**Why in news?**

- The Executive Director of the Tobacco Board of India cancelled a U.S. conference aimed at promoting tobacco.

**More about:**

- This was in contravention of the WHO Framework Convention on Tobacco Control (FCTC) and the Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003.

**Tobacco in India:**

- Tobacco is an important commercial crop grown in India.
- It occupies the third position in the world with an annual production of about 800 Million Kgs.
- Of the different types grown, flue-cured tobacco, country tobacco, burley, bidi, rustica and chewing tobacco are considered important.
- India stands 3rd in production of tobacco and in exports, Brazil and USA are ahead of India.

**Tobacco Board:**

- Tobacco Board is committed to accomplishing its role - the expressed will of parliament - for the smooth functioning of a vibrant farming system, fair and remunerative prices to tobacco growers and export promotion.
Government of India under the **Tobacco Board Act of 1975**, established the Tobacco Board, in place of the Tobacco Export Promotion Council.

- The Board opened its headquarters at Guntur in Andhra Pradesh, India.
- The Tobacco Board Act, 1975 aims at planned development of Tobacco Industry in the country.

**WHO Framework Convention on Tobacco Control (FCTC):**

- The WHO Framework Convention on Tobacco Control (WHO FCTC) is the **first international treaty negotiated under the auspices of WHO**.
- The WHO FCTC was developed in response to the globalization of the tobacco epidemic and is an evidence-based treaty that reaffirms the right of all people to the highest standard of health.
- India is a signatory to the convention.

**Global Tobacco and Nicotine Forum 2019:**

- Global Tobacco and Nicotine Forum 2019 is world’s leading annual forum discussing the future of the tobacco and nicotine industries.

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**ECONOMY**

### SIDE POCKETING

**Why in news?**

- UTI Credit Risk Fund and Reliance Ultra Short Duration Fund announced their intent to **side pocket** bonds issued by Altico Capital after it was rated default grade by an agency.

**What is a Side Pocket?**

- A **side pocket** is a type of account utilized in hedge funds to differentiate illiquid assets from more liquid investments.

- **The Securities and Exchange Board of India (SEBI)** introduced the side pocketing framework on the back of **IL&FS fallout**, putting a lot of pressure on the net asset value of most debt funds that owned IL&FS group papers in their portfolio.

- Once an investment enters a side pocket account, only the **current participants** in the hedge fund are entitled to a share of it.

- All existing investors in the scheme are **allotted equal number of units** in the segregated portfolio as held in the main portfolio and **no redemption** or subscription is allowed in the segregated portfolio.

- Future investors will not receive a share of the proceeds if the asset’s returns become realized.

**More about Side Pocketing:**

- SEBI rules allow debt funds to side pocket only those bonds that are **downgraded below investment grade by rating agencies**.

- When a bond rated BBB or above is pegged down, it turns from an investment grade bond to a noninvestment grade one.

- **Fund houses are required to decide on side pocketing** and secure the approval of their trustees for it, on the day the downgrade happens.

**Benefits of side pocketing:**

- **Holding illiquid assets in a standard hedge fund portfolio** can cause a great deal of complexity when investors wish to take distributions or leave the fund altogether—if risky assets are separated in a different account, that will be easier.

- **Putting side pocket funds off-limits** helps reduce too many early exits from the hedge fund.
CURRENT AFFAIRS CAPSULES

ACUPUNCTURE
✓ Acupuncture is a form of treatment that involves inserting very thin needles through a person’s skin at specific points on the body, to various depths.
✓ Research suggests that it can help relieve pain, and it is used for a wide range of other complaints.

MAP AIDED PROGRAMME

RANTHAMBORE TIGER RESERVES
✓ Ranthambore National Park lies at the edge of a plateau and is bounded to the north by the Banas River and to the south by the Chambal River.
✓ It is named after the historic Ranthambore fortress, which lies within the park.
✓ Relocation, of the male tiger (Dara) from Ranthambhore to Sariska

PREVIOUS YEAR QUESTION

1. With reference to the British colonial rule in India, consider the following statements:
   A. Mahatma Gandhi was instrumental in the abolition of the system of ‘indentured labour’.
   B. In Lord Chelmsford’s ‘War Conference’, Mahatma Gandhi did not support the resolution on recruiting Indians for World War.
   C. Consequent upon the breaking of Salt law by Indian people, the Indian National Congress was declared illegal by the colonial rulers.

Which of the statements given above are correct?
   (a) 1 and 2 only  
   (b) 1 and 3 only  
   (c) 2 and 3 only  
   (d) 1, 2 and 3