

WHAT IS THE ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD)?

The Gujarat government recently signed an agreement with OECD to conduct the Programme for International Student Assessment (PISA) test for students of government schools.



Key facts about Organisation for Economic Co-operation and Development (OECD):

- It is an international organisation of 38 countries committed to **democracy** and the **market economy**.
- OECD members are **typically democratic countries** that support free-market economies.
- The OECD was **established on Dec. 14, 1960**, by 18 European nations, plus the United States and Canada.
- **Headquarters: Paris, France.**
- The **stated goal** of the Organisation for Economic Co-operation and Development (OECD) is to **shape policies that foster prosperity, equality, opportunity and well-being for all**.
- The OECD **publishes economic reports, statistical databases, analyses, and forecasts** on the outlook for economic growth worldwide.
- The organization also **seeks to eliminate bribery and other financial crime worldwide**.
- The OECD **maintains a so-called "black list" of nations** that are considered **uncooperative tax havens**.
- India is one of the many non-member economies with which the OECD has working relationships in addition to its member countries.

The Programme for International Student Assessment (PISA):

- It is an **international assessment** that measures **15-year-old students' reading, mathematics, and science literacy** every 3 years.

- **First conducted in 2000**, the major domain of study rotates between reading, mathematics, and science in each cycle.
 - PISA also includes measures of general or cross-curricular competencies, such as collaborative problem solving.
 - PISA is coordinated by the OECD.
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WHAT IS RICE BRAN?

China has started promoting Rice bran as the staple food amid the ongoing food shortage in the country.



About Rice bran:

- Rice bran is one of the main byproducts in the process of the rice milling.
 - It is the outer brown layer of brown rice and is separated during the milling process.
 - The bran fraction contains 14-18% oil.
 - Rice bran oil is a good source of unsaturated fats, vitamin E, and other important nutrients.
 - It is currently mostly used as animal feed.
 - The health effects of RB including antidiabetic, lipid-lowering, hypotensive, antioxidant, and anti-inflammatory effects, while its consumption also improves bowel function.
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VISVA BHARATI UNIVERSITY

Visva-Bharati University will soon get the 'heritage' tag from UNESCO to take the distinction of world's first living heritage university.



About Visva Bharati university:

- It is one of India's major Central Government funded autonomous university located in Santiniketan, West Bengal.
 - It is well-known as a distinguished centre for Visual Art practice and research in India.
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- The university was established in 1921 by Nobel Prize Laureate, Rabindranath Tagore.
- It was named after Nobel Laureate Rabindranath Tagore until Visva-Bharati Society was registered as an organisation in May 1922.
- The institution was given the status of Central University in 1951 through a central Act.
- Its first vice-chancellor was Rathindranath Tagore, the son of Rabindranath Tagore, and the second vice-chancellor was grandfather of another Nobel Laureate economist Amartya Sen.
- The President of India appoints the Vice-chancellor of the University.
- Visva Bharati University is renowned for its cultural festivals called Poush Mela and the Basanta Utsab which attracts a number of artisans from all across the country.

THE ANDES MOUNTAINS

The United Nations refugee agency recently reported that seven Haitian migrants have died in the Andean highlands of Peru as anti-government protests have prevented them from crossing into Bolivia.



About Andes Mountains:

- The Andes is the longest above-water mountain range in the world.
- The Andes Mountains extend over seven countries: Argentina (Mount Aconcagua), Bolivia (Huayna Potosi), Chile, Colombia, Ecuador, Peru, and Venezuela, known as Andean States.
- It is about 5,500 miles (8,900 km) long and second only to the Himalayas in average elevation.
- It consists of a succession of parallel and transverse mountain ranges, or cordilleras, and of intervening plateaus and depressions.
- The highest elevation in the Andes is Mount Aconcagua in Argentina, which is 22,841 feet (6,962 m) above sea level.
- The Andes are also home to the world's highest volcano when measured above sea level, the Ojos del Salado on the Chile-Argentina border.

- The Andes Mountains are over **50 million years old**, they were created when the **South American and Pacific tectonic plates collided**.

Key facts about Peru:

- Peru is the **third largest country in South America**, after Brazil and Argentina.
 - It is **made up of a variety of landscapes**, from mountains and beaches to deserts and rain forests.
 - **Capital: Lima**
 - The world's largest rain forest, the **Amazon, covers nearly half of Peru**.
 - Peru shares **borders with Colombia, Brazil, Bolivia, Chile, and Ecuador**.
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HUBBLE SPACE TELESCOPE

Recently, astronomers used NASA's Hubble Space Telescope to directly measure the mass of a single, isolated white dwarf star.



Why in news?

- The Hubble Space Telescope measured the mass of a white dwarf designated LAWD 37, which burned out over 1 billion years ago.
- In the work, scientists used a phenomenon called **gravitational lensing**.

What is Gravitational lensing?

- It was first predicted in 1915 by **Albert Einstein** which involves the bending of light by objects of great mass.
- A gravitational lens can occur when a **huge amount of matter**, like a cluster of galaxies, **creates a gravitational field** that distorts and magnifies the light from distant galaxies that are behind it but in the same line of sight.
- The effect allows researchers to **study the details of early galaxies** too far away to be seen otherwise with even the most powerful space telescopes.

Key facts about the Hubble telescope

- It is named in honour of the trailblazing **astronomer Edwin Hubble**.
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- It is a large, **space-based observatory**, which has revolutionized astronomy since its launch and deployment by the space shuttle Discovery in 1990.
- Hubble's domain extends from the ultraviolet through the visible (which our eyes see) and into the near infrared.
- It is one of NASA's **Great Observatories Programs**. The other missions in the program include the visible-light **Spitzer Space Telescope**, **Compton Gamma-Ray Observatory (CGRO)**, and the **Chandra X-Ray Observatory (CXO)**.

MEDIUM-DENSITY AMORPHOUS ICE

Recently, scientists have fashioned a previously unknown form of ice – one that might exist on our solar system's icy moons.



About Medium-density amorphous ice:

- The researchers employed a process called ball milling to vigorously shake ordinary ice together with steel balls in a container cooled to minus-328 degrees Fahrenheit (minus-200 degrees Celsius).
- This yielded what they called “medium-density amorphous ice,” or MDA, which looked like a fine white powder.

What is amorphous ice?

- Amorphous ice consists of **water molecules arranged in a disordered state**, with no large-scale regularity to their orientations or positions.
- This kind of ice is most often found in space.
- Scientists have identified 20 different forms of crystalline ice and three forms of amorphous ice – **one low density** (discovered in the 1930s), one **high density** (discovered in the 1980s), and the new one in between.

GENDER BUDGETING IN INDIA: INDIA'S GENDER BUDGET UP BY OVER 30% THIS YEAR

Why in News?

- India's Gender Budget, which aims to reduce the gender gap, was allocated ₹2.23 lakh crore in the Union Budget 2023-24, which is just 2.12% higher than the Revised Estimates (RE) of ₹2.18 lakh crore for 2022-23.
- However, it was at least 30% higher compared to last year's Budget Estimates (BE) of 1.71 lakh crore.

What is Gender Budgeting?

- The Ministry of Women and Child Development (MoWCD) defines gender budgeting as a **tool to achieve gender mainstreaming** so as to ensure that the benefits of development reach women as much as men.
- The government publishes a **Gender Budget Statement (GBS)** every year along with the **Union Budget**.
- GBS is a reporting mechanism for ministries/departments **to review their programmes from a gender perspective** and present information on allocations for women.
- As such, it is **not a separate accounting exercise** but an ongoing process of keeping a gender perspective in policy/programme formulation, its implementation and review.
- **Gender budgeting in states:** In 2021, the MoWCD stated that 27 states/UTs had adopted Gender Budgeting.

What needs to be Done to Promote Gender Budgeting?

- **Applying a gender lens to Budget:** Nobody is saying that make exclusive schemes, but include a gender perspective to government schemes uniformly.
- **Track gender disaggregated data:** To determine who is benefiting from government schemes.
- **Decentralisation:** Empowering officials at district level and panchayat level who deal with ground realities on a day-to-day basis.

News Summary with respect to the Recent Gender Budget Announcements:

- **Overview:**

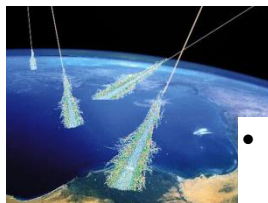
- There was a **0.63% rise** in the share of the Gender Budget in government's total expenditure.
- The estimated Gender Budget stood at **96% of the total expenditure** this year, compared to 4.33% last year.
- The gender budget has been an **average of 4.9% of the total expenditure** as per budget estimates during the previous 15 years.

- **Allocations to key schemes:**

- **Safe City Project**, an initiative under the **Nirbhaya Fund scheme** for ensuring safety of women and children, saw an eight-fold increase in allocation - from ₹165 crore in RE 2022-23 to ₹1,300 crore in BE 2023-24.
- **SAMBAL**, a sub-scheme comprising old schemes like **One Stop Centre, Women Helpline and Beti Bachao Beti Padhao**, saw no change in allocation in the 2023 Budget - ₹562 crore.
- Another sub-scheme **SAMARTHYA**, which includes women empowerment programmes like **Pradhan Mantri Matru Vandana Yojana and Swadhar Greh**, was earmarked ₹2,496 crore this year, 33% more compared to RE 2022-23.
- **SAMBAL** and **SAMARTHYA** are part of the larger umbrella scheme '**Mission Shakti**', an integrated women empowerment programme that came into effect in 2022.

MUONS

As per a new study, researchers are examining the fortress wall of Xi'an, an ancient city in China, by using tiny outer space particles called muons that can penetrate hundreds of metres of stone surfaces.



Why in news?

- To analyse 14 kilometres long rampart, researchers deployed a technique called **muon tomography or muography**, which uses muons to generate three-dimensional images of such large structures.

What are Muons?

- Muons are **subatomic particles** raining from space.
- The muon was discovered as a constituent of **cosmic-ray particle** “showers” in 1936 by the American physicists **Carl D. Anderson** and **Seth Neddermeyer**.
- They are created when the particles in **Earth’s atmosphere collide with cosmic rays** — clusters of high-energy particles that move through space at just below the speed of light.
- It has **two forms**, the negatively charged muon and its positively charged antiparticle.
- These particles resemble electrons but are 207 times as massive. Therefore, they are sometimes called “fat electrons”.
- Muons are so heavy, they can travel through hundreds of metres of rock or other matter before getting absorbed or decaying into electrons and neutrinos
- They are highly unstable and exist for just 2.2 microseconds.

What is muon tomography?

- Although muon tomography was first used in the 1960s, it has only recently gained widespread use among researchers, particularly in archaeology.
- It is conceptually **similar to X-ray** but capable of scanning much **larger and wider structures**, owing to the penetration power of muons.
- All that is required is to place a **muon detector** underneath, within, or near the object of interest.
- The detector then tracks the number of muons going through the object from different directions, to form a three-dimensional image.
- The image is then compared with a muon image of the “free sky.” This indicates how many muons have been blocked. The final picture is essentially a shadow of the object, in the light of cosmic muons.”

CHINESE SPY BALLOON

Why in news?

- The US military has downed the **suspected Chinese spy balloon** over the Atlantic Ocean and launched a mission to recover all the equipment from its debris.

- This has drawn a strong reaction from China which warned of repercussions over America's use of force against its civilian unmanned airship.

News summary



IT'S A BIRD... IT'S A PLANE... OR A SPY BALLOON?

Cheap, quiet and hard to reach — balloons have long been used for reconnaissance purposes, including in conflicts like the American Civil War. While their use has waned, many countries still employ spy balloons.

What happened
US spots balloon earlier the week, and most recently sees it floating more than 40,000 feet over Montana. The location is sensitive, since the state is home to the Air Force's 341st Missile Wing and its Minuteman III intercontinental ballistic missiles.

Why it mattered
Revelation comes just days before US secretary of state Antony Blinken's visit to Beijing, which he has now postponed. A report said that Blinken was also expected to meet President Xi Jinping, making him the first in his role to do so.

Why not shoot it down
Some reports said balloon was 'as large as three buses' so fear of potential damage due falling debris deterred drastic action.

What US did
Discovery put the military and intelligence services of the US and Canada on alert.

An edge over satellites

- > Unlike satellites, which require space launchers that cost hundreds of millions of dollars, balloons can be launched cheaply
- > They have ability to scan wide swaths of territory from closer in, and to be able to spend more time over a target area
- > *Not directly steered, but can be roughly guided to a target area by changing altitudes to catch different wind currents

Historical use

- > During WWII, Japanese military tried to loft incendiary bombs into US territory using balloons
- > During the Cold War, US launched hundreds of balloons to gather intelligence on the Soviet Union and China

How high do they fly

Surveillance Balloon	1,20,000 ft (37k)
Fighter Aircraft	80,000 ft (24k)
Commercial Airliners	65,000 ft (20k)
	40,000 ft (12k)

Instruments can include camera, radar, sensors and communication equipment

Solar panels provide power

Helium-filled balloon

Map: Shows the location of the balloon over Montana, near the Malmstrom Air Force Base, Billings, and the border with Canada.

Spy balloon and US China tie

Why USA is worried?

- Earlier, the Pentagon said it has detected a surveillance balloon over Montana. It was found to be traveling at an altitude well above commercial air traffic.
- Montana is home to some of America's most lethal

nuclear Inter-Continental Ballistic Missiles (ICMBs).

- USA claimed that the balloon was being used by the People Republic of China to surveil strategic sites in the continental United States.
- By shooting down the balloon, USA addressed the **surveillance threat posed to military installations** and further neutralise any intelligence value it could have produced, preventing it from returning to China.
- Chinese infiltration of US on the ground and now in the air has stirred disquiet in both strategic and political circles.
- Proposed land purchases by China in neighboring North Dakota is being opposed by US lawmakers and military analysts.
- They say that it could be cover for spying on a nearby military facility where drone test flights are conducted.

- **What is China's response?**

- China has said the balloon, spotted over the state of Montana, is merely a "civilian airship" which deviated from its planned route.
- After USA shot down the balloon, China expressed strong dissatisfaction and opposition towards the US use of force to attack China's civilian unmanned airship.
- It contended that the use of force by USA was an obvious overreaction and a serious violation of international practice.

What are spy balloons?

- A contemporary spy balloon is a piece of spying equipment, for example a camera, suspended beneath a balloon that floats above a given area, carried by wind currents.
- Balloons are one of the oldest forms of surveillance technology. The Japanese military used them to launch incendiary bombs in the US during World War Two.
- They were also widely used by the US and the Soviet Union during the Cold War.
- Modern balloons typically hover between 24km-37km above the earth's surface (80,000ft-120,000ft).

Why use spy balloons rather than satellites?

- For the last few decades, satellites were used on a regular basis. But now lasers or kinetic weapons are being invented to target satellites.
- Hence, there is a resurgence of interest in balloons.
- Although, these balloons don't offer the same level of persistent surveillance as satellites, but are easier to retrieve, and much cheaper to launch.
- Balloons can also scan more territory from a lower altitude and spend more time over a given area because they move more slowly than satellites.