

1. Consider the following statements regarding the Comprehensive Test Ban Treaty (CTBT)

1. The CTBT is a "zero-yield" treaty, meaning that it prohibits all nuclear explosions that produce a self-sustaining, supercritical chain reaction
2. CTBT entered into force after the India's Pokhran nuclear test in 1998
3. India has neither signed nor ratified the treaty

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2 only
- c) 1 and 3 only
- d) 2 and 3 only

Ans: C

Explanation

- **Statement 1 is correct** The Comprehensive Test Ban Treaty (CTBT) prohibits "**any nuclear weapon test explosion or any other nuclear explosion**" anywhere in the world. It is a "**zero-yield**" treaty, meaning that it prohibits all nuclear explosions that produce a self-sustaining, supercritical chain reaction.
- The treaty was opened for signature in September 1996, and has been **signed by 184 nations** and ratified by 168
- **Statement 2 is incorrect:** The treaty **cannot enter into force until it is ratified by 44 specific nations, eight of which have yet to do so:** China, India, Pakistan, North Korea, Israel, Iran, Egypt, and the United States.
- **Statement 3 is correct: India, North Korea and Pakistan have not yet signed the Treaty**

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- The Treaty was **negotiated at the Conference on Disarmament** in Geneva and adopted by the United Nations General Assembly
- In order to verify compliance with its provisions, the treaty **establishes a global network of monitoring facilities** and allows for on-site inspections of suspicious events
- ✓ A recent report issued by the United States State Department on “**Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments (Compliance Report)**” has raised concerns that China and Russia might be conducting nuclear tests in violation of its Comprehensive Nuclear-Test-Ban Treaty (CTBT) undertakings. However, Russia and China have rejected the U.S.’s claims.

<https://www.armscontrol.org/factsheets/test-ban-treaty-at-a-glance>

<https://www.armscontrol.org/issue-briefs/2012-03/test-ban-treaty-myths-vs-realities>

<https://www.ctbto.org/the-treaty/article-xiv-conferences/2011/afc11-information-for-media-and-press/what-is-the-ctbt/>

2. ‘Migration and Development Briefs’ is report published by which of the following?

- a) International Organization for Migration (IOM)
- b) World Bank
- c) International Labour Organization (ILO)
- d) Organisation for Economic Co-operation and Development (OECD)

Ans: B

Explanation

- **Migration and Development Briefs** is a report prepared by the Migration and Remittances Unit, Development Economics (DEC), **World Bank**.

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- The brief aims to **provide an update on key developments** in the area of **migration and remittance flows and related policies** over the past six months
- It also provides **medium-term projections of remittance** flows to developing countries. A special topic is included in each brief. The **brief is produced twice a year**

<https://openknowledge.worldbank.org/handle/10986/9421>

3. Consider the following statements

1. Most of the atmospheric ozone is located in the stratosphere
2. Surface level Ozone is predominantly a product of industrial and urban pollution

Which of the statements given above is/are incorrect?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Ans: D

Explanation

- Ozone was first discovered in **1839** by German scientist **Christian Friedrich Schonbein**.
- Ozone is a **molecule made up of three oxygen atoms** which is naturally formed by the **photolysis of normal oxygen** by ultraviolet solar radiation in the stratosphere.
- A certain amount of ozone is also **produced in the troposphere** in a chain of chemical reactions involving **hydrocarbons and nitrogen-containing gases**.
- Though ozone is a minor atmospheric constituent, with an average concentration of about 3 parts per million volume (ppmv), the radiation properties of this **greenhouse gas** make it a **significant contributor to the radiative energy** balance of the atmosphere, and an important **regulator of the ultraviolet solar radiation** received at the Earth's surface.

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- **Statement 1 is correct:** Most of the atmospheric ozone (90 per cent) is **located in the stratosphere** with a maximum concentration of between 17 and 25 km , depending on latitude and season
- The geographical and vertical distributions of ozone in the atmosphere are determined by a complex interaction of atmospheric dynamics and photochemistry.
- **Statement 2 is correct:** In the Earth's **lower atmosphere (troposphere) near ground level, ozone is formed when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources react chemically in the presence of sunlight.**
 - Ozone near the ground is monitored because it is a **product of industrial and urban pollution.** Surface level Ozone is a harmful air pollutant.

Why in news?

- ✓ The largest **Ozone Hole Ever Recorded over North Pole Has Now 'Healed Itself'** and Closed. This was announced by Scientists who were tracking the hole at **Copernicus' Atmospheric Monitoring Service (CAMS).**
- ✓ According to the scientists the **closure of the hole is not due to the reduced pollution levels** due to COVID-19 lock down.
- ✓ The closing was because of a phenomenon called **the polar vortex.**
- Polar vortex is described as a **whirling cone of low pressure** over the poles that is strongest in the winter months due to the **increased temperature contrast** between the polar regions and the mid-latitudes, such as the US and Europe

<http://www.theozonehole.com/ozone.htm>

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4. 'Patachitra painting' is predominantly practiced in which of the following states?

- a) Odisha
- b) Maharashtra
- c) Andhra pradesh
- d) Kerala

Ans: A

Explanation

- One of the oldest forms of artwork found in **Orissa**, **Patachitra art is fascinating**, depicts Hindu mythological tales and wonders.
- Patachitra art is **vibrant, unique and is a fine display of dexterous Indian craftsmanship** at its best. This kind of artwork has a traditional appeal and is intrinsic with **Indian values, customs and rituals**, which are a part and parcel of the Hindu faith and religion
- Patachitra style of painting is a **unique blend of classical and folk element** but is more bent towards a folk style in the larger sense.
- What is even more interesting is that this artwork has **Mughal influences as well** when it comes to the character's apparel and fashion sense. Features of each character are **defined with clear dark lines which give a definite shape and appeal**. Natural dyes and colors are used, all of which are derived from fruits and vegetables
- This form of artwork was **first conceptualized in Orissa and dates back to the 5th century**. The artists who practiced this craft were known as **Mohapatras or Maharanas**
- The astounding temples and architecture in Orissa is what **lent its inspiration to all these creative craftsmen** who narrated pictorial stories through their paintings and detailed work.

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- Apart from Orissa, this artwork is also widely practiced in West Bengal. The only difference is that in Orissa, patachitra art is **done on Cotton fabric**, whereas Silk is mostly used in Bengal.

<https://www.utsavpedia.com/motifs-embroideries/pattachitra-on-clothing/>

5. 'Special 301 Report' includes a list of "Priority Foreign Countries", "Priority Watch List" and a "Watch List". This report is related to

- a) Religious freedom
- b) Counterterrorism
- c) Intellectual Property Rights (IPR)
- d) Migrants and Refugees

Ans: C

Explanation

SPECIAL 301 REPORT

- The Special 301 Report is **prepared annually by the Office of the United States Trade Representative (USTR)** that identifies **trade barriers** to United States companies and products due to the **intellectual property laws**, such as **copyright, patents and trademarks**, in other countries
- By statute, the annual Special 301 Report includes a list of "**Priority Foreign Countries**", that are judged to have inadequate intellectual property laws; these countries may be subject to sanctions.
- In addition, the report contains a "**Priority Watch List**" and a "**Watch List**", containing countries whose intellectual property **regimes are deemed of concern**.
- The Special 301 Report is **published pursuant to Section 301 of the Trade Act of 1974** as amended by Section 1303 of the Omnibus Trade and Competitiveness Act of 1988.

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- In a recently released report, **India continues to be on the 'Priority Watch List'** of the United States Trade Representative (USTR) for lack of adequate intellectual property (IP) rights protection and enforcement
- India remained one of the **most challenging economies for IP enforcement and protection**. While India made "meaningful progress" to enhance IP protection and enforcement in some areas over the past year, it **did not resolve recent and long-standing challenges**, and created new ones.
- These long-standing concerns were about
 - innovators being able to receive, maintain and enforce patents particularly in the **pharmaceutical sector**
 - **Concerns over copyright laws** not incentivising the creation and commercialisation of content and an outdated trade secrets framework.
 - The report also mentioned **high customs duties on medical devices** and Information and Communications Technology

<https://www.thehindu.com/business/Economy/intellectual-property-rights-india-remains-on-us-priority-watch-list/article31467719.ece0>