



(1)



- In contrast, the five largest countries/economic union — **the United States, China, the European Union, Japan, and India** — acting jointly could make a huge impact on global emissions.

### Q3. State of Global air 2020 report recently in news;

1. The report is released by the Ministry of Environment, forest and climate change.
2. India has been exposed to the highest level of ozone in 2019.
3. Climate change is one of the factors for ozone hole expansion.

Which of the above statements is/are correct?

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

Answer: (B)

#### Explanation:

**Statement 1:** The report is released by the **Health Effect Institute (HEI1)**. So statement 1 is incorrect. Statement 1 and 2 are correct.

### Q4. Consider the following statements;

1. Climate change is one of the most important reasons for hunger across the globe.
2. Sustainable food development is the only option for the long term eradication of hunger.
3. Climate-smart agriculture is one of the key options that can fulfil sustainable food development need.

Which of the above statements is/are the best possible outcome for global hunger?

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

Answer: (D)

#### Explanation:

**Statement 1:** **Conflict and climate change** as the core reasons for hunger in many countries, as they force people to move away from their homes, land and jobs. This leads to a drastic reduction in incomes and the availability of affordable food. **So statement 1 is correct.**

**Statement 2:** The greater emphasis is needed on **building sustainable food systems in the long term** as a foundation for access to affordable and nutritious food. **So statement 2 is correct.**

**Statement 3:** Countries should work towards sustainable local food systems that are climate-smart, culture and context-specific, inclusive, caring and accountable. **So statement 3 is correct.**



**Q5. What do you understand by the term Saturation Horizon?**

1. Ocean Acidification
2. Global warming
3. Land degradation
4. Shifting of ITCZ

Which of the above option is correct?

- |            |            |
|------------|------------|
| (a) 1 only | (b) 2 only |
| (c) 3 only | (d) 4 only |

Answer: (A)

**Explanation:**

Deep, cold ocean waters are naturally under saturated with carbonate ions causing the shells of most calcifying organisms to dissolve.

- Surface waters are over-saturated with carbonate ions and do not readily dissolve shells of calcifying organisms.
- The saturation horizon is the level below which calcium carbonate minerals undergo dissolution.
- Those organisms that can survive below the saturation horizon do so due to special mechanisms to protect their calcium carbonate from dissolving.
- As ocean acidification causes this horizon to rise vertically in the water column so more and more calcifying organisms will be exposed to undersaturated water and thus vulnerable to the dissolution of their shells and skeletons.
- The saturation horizon of calcite occurs at a greater ocean depth than that for aragonite, but both horizons have moved closer to the surface presently when compared to the 1800s.

**Q6. Which of the statement is NOT correct about the impact of climate change?**

1. Moderate warming i.e. increase of 1 to 3°C in mean temperature, is expected to benefit crop yields in temperate regions.
2. In lower latitudes in seasonally dry tropics, even moderate temperature increases (1 to 2°C) are likely to have negative impacts on major cereal crops.
3. Warming of more than 3°C is expected to have a negative effect on production in all regions.
4. None

Which of the above statement is correct?

- |            |            |
|------------|------------|
| (a) 1 only | (b) 2 only |
| (c) 3 only | (d) 4 only |

Answer: (D)



## Explanation:

Climate Change can affect crop yield as well as the types of crops that can be grown in certain areas, by impacting agricultural inputs such as water for irrigation, amounts of solar radiation that affect plant growth, as well as the prevalence of pests.

- Rise in temperatures caused by increasing greenhouse gases is likely to affect crops differently from region to region.
- For example, moderate warming (an increase of 1 to 3°C in mean temperature) is expected to benefit crop yields in temperate regions, while in lower latitudes especially seasonally dry tropics, even moderate temperature increases (1 to 2°C) are likely to have negative impacts for major cereal crops.
- Warming of more than 3°C is expected to have a negative effect on production in all regions.

**Q7. Which one of the following statements best describes the term 'Social Cost of Carbon'? It is a measure, in monetary value, of the**

1. Long-term damage was done by a tonne of CO<sub>2</sub> emissions in a given year.
2. The requirement of fossil fuels for a country to provide goods and services to its citizens, based on the burning of those fuels.
3. Efforts put in by a climate refugee to adapt to live in a new place.
4. Contribution of an individual person to the carbon footprint on the planet Earth.

Answer: (A)

## Explanation:

In microeconomics, Social cost is a concept associated with some type of negative externality. For example, Factories emit a large amount of smoke from their chimneys into the atmosphere. This may not figure in the calculation of costs in their records. But the cost to the community may be in the form of additional washing bills for clothes and the money spent by the community on medical bills etc. These costs are social costs.

OECD defines the Social Cost of Carbon as the net present value of climate change impacts over the next 100 years (or longer) of one additional tonne of carbon emitted to the atmosphere today.

Considering these interpretations, A is the closest option.



## Mains Question

- Q1. What do you understand by Ecologically Sensitive areas? What are the issues that these areas are facing and what could be the possible way forward for them? **(15 Marks, 250 Word)**
- Q2. Marine heatwaves are the new paradigm of climate change. What do you understand by the term marine heatwaves and what impact does it do on the marine ecosystem and ecology? **(10 Marks, 150 Word)**

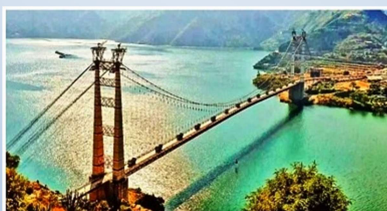
## Snippets



## ETHIOPIA MAP FOR PRELIMS

### DOBRA CHANTI BRIDGE

- The Chief minister of Uttarakhand recently inaugurated the country's longest single-lane motorable suspension bridge, Dobra Chanti in Tehri Garhwal district.
- The 725 metre-long bridge will connect Pratap Nagar town with Tehri Garhwal district headquarters.



DOBRA CHANTI BRIDGE